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ABSTRACT

Third in a series of hearings on the status of Federal health and safety standards and the social and economic implications of lowering or relaxing them, this hearing investigated issues of child health. The hearings were prompted by concern that existing health and safety standards were being undermined by irresponsible budget cuts, in some cases sweeping arbitrary deregulation, and the complex interplay between the two. Testimony includes the personal views of Dr. Albert B. Sabin about child health issues, the Children's Defense Fund's positions regarding child health programs and standards, concerns of pediatricians about immunizations and nutrition, national and Maryland perspectives on health and other indicators of risk and the Federal food program, remarks on major areas of morbidity and mortality during adolescence which require significant resources and further understanding, academic researchers' attitudes concerning Federal funding of research, long-term consequences of reduced Federal commitment to child health programs, and an advocate pediatrician's views on child health and safety and the effects of cutbacks in research funding. In addition to prepared statements, submissions for the record include an article on preventive health care for children by Senator Dale Bumpers and a report of the Ad Hoc Group for Medical Research Funding. Tables and figures are included. (RH)

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DECLINING FEDERAL HEALTH AND SAFETY STANDARDS: CHILD HEALTH

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HEARING

BEFORE THE

SUBCOMMITTEE ON INVESTMENT, JOBS, AND PRICES

OF THE

JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

NINETY-NINTH CONGRESS

SECOND SESSION

AUGUST 4, 1986

Printed for the use of the Joint Economic Committee

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DECLINING FEDERAL HEALTH AND SAFETY STANDARDS: CHILD HEALTH

MONDAY, AUGUST 4, 1986

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON INVESTMENT, JOBS, AND PRICES
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:45 a.m., in the 21st Floor Constellation Room, World Trade Center, Pratt Street, Baltimore, MD, Hon. Paul S. Sarbanes (member of the subcommittee) presiding.

Present: Senator Sarbanes.

Also present: William Buechner, professional staff member.

OPENING STATEMENT OF SENATOR SARBANES, PRESIDING

Senator SARBANES. If we could come to order.

Today, the Subcommittee on Investment, Jobs, and Prices of the Joint Economic Committee holds the third in a series of hearings on the status of Federal health and safety standards and the social and economic implications of lowering or relaxing them.

Today's hearing will be devoted to the subject of child health.

In its first hearing, the subcommittee focused on air transportation safety issues, and in the second, on fire prevention and control. The subject of the fourth hearing in the series, which will take place this Thursday in Washington, will be hospital disinfectants.

All four of these hearings are prompted by the rising concern in the Congress, the press, and the public at large that the Nation's existing health and safety standards are being undermined by irresponsible budget cuts, in some cases sweeping arbitrary deregulation, and the complex interplay between the two.

A 1984 study conducted by William Drayton, the former Deputy Administrator of the Environmental Protection Agency, concluded that the Federal Government is failing where health and safety protections are concerned and, further, that "budget cuts, which have been this administration's chief policy weapon toward this end, have fallen most unrelentingly on the relatively new and most vulnerable health and safety agencies." The result, he says, "is not the work of any one manager; it is a governmentwide pattern, with a resulting protection gap potentially enormous in scale."

Mr. Drayton's sober assessment is perhaps no more accurately applied than in the area of child health and safety standards. This is particularly troubling because of the central role our children play in our lives. They stand at the very heart of our families.

They represent the strength of our Nation. They are our hope for the future.

Let me mention just a few of the problems we face.

For nearly 20 years, the Nation's infant death rate dropped steadily and significantly. But in the last 3 years, the rate of decline has slowed dramatically. Whereas a quarter of a century ago, the United States placed 7th in the world in terms of infant mortality rate, today it is 17th.

Good prenatal care reduces not only infant mortality, but low birthweight as well. Last year, citing a study by the National Institute of Medicine entitled "Preventing Low Birthweight," the New Republic observed, "It costs far less to ensure that a baby is born healthy than to keep it alive just one day in intensive care," and pointed to the study's finding that every $1 spent on prenatal care translates into $3 saved in providing medical care.

Good health care for children minimizes long-term, indeed, lifetime, health problems. Lives are made fuller and richer, and the productive capacity of the Nation is increased when we identify and treat vision, hearing, and dental problems or neurologic or orthopedic problems early in life.

Yet there have been drastic cuts in funding and drastic restrictions on eligibility for the programs which, in many cases, mean the difference between treatment and nontreatment.

Routine immunization has virtually eliminated many of the childhood diseases—polio, diphtheria, whooping cough, measles, for example—that not many years ago raised the specter of life-long handicap or even death.

My distinguished colleague from Arkansas, Senator Bumpers, has noted that, since its launching on a national scale, the childhood immunization program "has had dramatic success in reducing the incidence of childhood diseases, and the combined Federal expenditure for the 8 years from 1973 through 1982 was only $205 million, or about the cost of one B–1 bomber."

Nonetheless, the President has declined to request the funds necessary to rebuild the national vaccine stockpile, which has fallen seriously below the 6-month supply recommended by the Centers for Disease Control.

Now Senator Bumpers has sent us a letter commending the committee for investigating the status of our children's health and seeking to determine the impact of funding decisions on research in the delivery of health care services to mothers and children. I'd like just to read excerpts from that letter. The entire letter, together with an article by Senator Bumpers, will be included in the record.

[The letter and article follow:]

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United States Senate
COMMITTEE ON APPROPRIATIONS
WASHINGTON, DC 20510

August 4, 1986

The Honorable Paul S. Sarbanes
United States Senate
Washington, D.C. 20510

Dear Paul:

I want to commend you for calling a hearing of the Joint Economic Committee to investigate the status of our children's health and to determine the impact of funding decisions on research and the delivery of health-care services to mothers and children.

I believe that the availability of preventive health care for every child and expectant mother must be considered part of the basic foundation for the welfare and strength of this nation. Since 1970, I have been involved in debates on the proper role of the federal and state governments in financing public health programs for our citizens. Unfortunately, the decrease in the availability of public health and nutrition services since 1981 has slowed or reversed the progress we have made in improving many key public health indicators and called into question our ability to reach the Surgeon General's 1990 goals for lowering the rates of infant mortality, post-neonatal mortality, and low birthweights.

We shouldn't compromise our goals for 1990, but we must take action in order to meet these objectives. Last week, the Department of Health and Human Services announced the latest figures on health-care expenditures for 1985. The nation spent $425 billion on health care in 1985, an amount equal to 10.7 percent of the GNP. Two figures in the report especially disturb me: (1) the total government expenditures for public health activities, $11.9 billion, or 2.8% of total health-care expenditures; and (2) $7.4 billion for noncommercial research, or 1.7% of total health-care expenditures. Our investment in public health and research is woefully inadequate.

The human benefits of public health programs and research are reason enough to increase our investment, but the economic benefits are an added incentive. It is senseless to shortchange public health programs that have cost-benefit ratios ranging from 1:3 to 1:10. The United States has been a world leader in

developing the most sophisticated technology to save desperately ill newborns, yet we are also a leader in the industrialized world in the percentage of low birthweight babies who need these sophisticated services. We should be proud of our biomedical leadership, but we should also be very concerned about the delivery of preventive care. We need to improve our investment in preventive health programs because the long-term savings from this investment will help us to ensure our leadership in medicine and improve the public health.

I know the witnesses at the hearing today will provide great insight into the challenges facing health-care providers, researchers, and policymakers. I commend you for holding this hearing, and I look forward to reading the testimony of all the witnesses.

Sincerely,

Dale Bumpers

Dale Bumpers

DB:egf

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Securing the Blessings of Liberty for Posterity

Preventive Health Care for Children

Dale Bumpers *U.S. Senate*

Almost every day something happens that causes me to reflect again on the brilliance of the "Founding Fathers" of our great nation. As a senator, I am constantly reevaluating the appropriate role of government, and I continue to find guidance in the simple, eloquent words our founders used in the Preamble to the U.S. Constitution. Those words are worth repeating here:

> We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

The future of every nation belongs to its children, and everyone, regardless of political persuasion, would agree that one of the essential ways to secure the blessings of liberty for them, our posterity, is to help them become and remain healthy. Although children's access to a public education has been considered a right, no such right exists for children's access to adequate health care. And yet a child who is not healthy cannot take full advantage of a public education, cannot seize the future and the full blessings of liberty America has to offer. I believe that the availability of preventive health care for every expectant mother and child must be considered part of the basic foundation for the welfare and strength of the nation.

One in every five children, or 13.6 million, live in poverty, and one third of these have no identifiable source of health care. Seven other countries have lower infant mortality rates than the United States. The United States has the second highest percentage among nine other industrialized nations in infants that have low birth weight. (Two thirds of all infant deaths occur among low-birth-weight babies.) One in every 20 women in the U.S. receives no prenatal care until the last trimester, and one in 76 receives none at all. One out of every 11 pregnant black women receives no prenatal care until the last trimester, and one in 37 receives none at all. These statistics illustrate how much can be done to improve the health care given to infants and children.

History of Federal Involvement

Before 1912, there was little federal involvement in children's health. The first White House Conference on Children was convened in 1909 by President Theodore Roosevelt, and at its recommendation the Children's Bureau was created in 1912. Julia Lathrop, the first woman to head a federal agency, was granted $25,640 to investigate seven issues: infant mortality, birth registration, orphanages, child labor, desertion, illegitimacy, and degeneracy. The bureau focused its first investigation on the causes of infant mortality and provided the first governmental data linking infant mortality to conditions such as family income, housing, employment status of the mother, and early health care for mothers and infants.

The Children's Bureau was granted limited authority by Congress and could only use its findings for public education and to encourage the enactment of state laws. In 1914, it distributed the now famous publication *Infant Care*. The public response to the findings of the Children's Bureau and its educational programs reinforced the efforts of those who were urging targeted federal action on behalf of mothers and children. The bureau's studies also stated the case for child labor laws, a school lunch program, a uniform birth registration program, and other significant initiatives.

The federal government became more directly involved in children's health care with the Sheppard-Towner Act, also known as the Maternity and Infant Care Act of 1921. Its passage was surrounded with controversy over the government's alleged interference in family affairs. Opponents argued that "official meddling cannot take the place of mother love" and called the act "radical, socialistic, and bolshevistic." This legislation was one of the first federal grants-in-aid programs for health care and was administered through the Children's Bureau. The program required states that accepted money to match federal funds and to designate an administrative agency with responsibility for maternal and child health activities.

By 1927, 45 states participated in the program and funds were used primarily for preventive child health programs. Although this act was extended for 2 more years, opposition from the Catholic church and the American Medical Association (AMA), which called the programs, "paternalistic, socialistic, and meddlesome," led to their termination in 1929. The controversy which surrounded this Act led a group of pediatricians to split away from the AMA to form the American Academy of Pediatrics (AAP).

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During the years of the Sheppard-Towner Act, the Children's Bureau produced several notable achievements. By 1929 all states required birth registration, and 1,594 new child health centers were established throughout the country between 1924 and 1929.

As the nation faced the Great Depression of the 1930s, 19 states continued their maternal and child health programs. Most of the states, however, found it difficult to maintain these programs as federal support diminished. During the early 1930s the Children's Bureau reported that the health and welfare of children were worsening and recommended a broader federal/state program. Katherine Lenroot, director of the Children's Bureau during these years, said, "We cannot too strongly recommend that the Federal Government again recognize its obligation to participate in the nationwide program saving the children from the forces of attrition and decay which the depression turned upon them above all others" (U.S. Department of Health, Education, and Welfare, 1976). Such a plea sounds similar to those made by many of us in Congress during recent funding fights on preventive health programs for children.

In 1935, the Social Security Act was passed and Title V of the Act designated the Children's Bureau to administer three programs: Maternal and Child Health (MCH) services, services for crippled children, and child welfare services. The goal of Title V programs was to expand health services for poor mothers and children.

During the 1960s, amendments to Title V expanded services and the access to care. The 1963 amendments required that each state's Title V program include maternal and infant (M & I) and children and youth (C & Y) projects, family planning, intensive infant care, and dental services. Because Congress believed that states were not meeting the needs of communities, the amendments allowed federal health agencies to circumvent state government and negotiate directly with community health units.

Dale Bumpers

During this time, the National Institute for Child Health and Human Development (NICHD) was created as part of the National Institutes of Health to provide a center for research on child health, growth, and development. Title XIX of the Social Security Act was passed in 1965, creating the Medicaid program for poor and disabled children and adults. In 1972 the Women, Infant and Children Supplemental Feeding Program (WIC) began to provide nutritional supplements to young children and mothers. A number of the original functions of the Children's Bureau were transferred to other agencies. Its health care functions are now carried out by the Public Health Service. Currently, the Bureau's responsibilities include child welfare activities as part of the Office of Human Development, Department of Health and Human Services.

In 1977, the Childhood Immunization Initiative was launched to immunize children against preventable childhood diseases. At the time, 40% of children (20 million) under age 15 were unprotected against one or more childhood diseases for which safe and effective vaccines were available. This initiative was modeled after the Arkansas program developed by my wife Betty when I was governor. It included

Editor's note. Senator Dale Bumpers is presently serving in his 10th year in the U.S. Senate, after serving two terms as governor of Arkansas. He has served with distinction on the Senate Energy Committee, the Senate Appropriations Committee, and formerly, the Armed Services Committee. He has used his position on the Appropriations Committee to ensure continued funding of health and education programs threatened by recent budget cuts. He was especially effective in preserving the childhood immunization and Maternal and Child Health Care programs. For his leadership in this area the American Academy of Pediatrics gave its 1983 Excellency in Public Service Award to Senator Bumpers and to his wife Betty, who helped develop a nationwide childhood immunization plan.

This article is part of our special invited series by public officials designed to inform psychologists about policy issues of concern to psychology and the public at large. The views expressed are those of the author and do not necessarily reflect the views of the American Psychological Association or its officers.

Requests for reprints should be sent to Senator Dale Bumpers, 229 Dirksen Senate Office Building, Washington, D.C. 20910.

extensive involvement by volunteers and voluntary organizations and a major public information and education campaign. By 1980, immunization levels of children entering school were between 92% and 96%, and the incidence of diseases was steadily dropping.

The 95th Congress passed legislation that created a Select Panel for the Promotion of Child Health. This panel reviewed all literature related to child health, set specific health status goals for children and expectant mothers, and developed a comprehensive national plan for achieving these goals. In 1981 the report of the Select Panel was released, and it pointed to the overriding absence of a cohesive federal policy for children's health services. It also described inadequate program information, insufficient resources, and poor coordination between services. The panel recommended a greater clarification of governmental responsibilities, better oversight, and more equitable allocation of resources.

By the time of the panel's report, sweeping changes in the administration and funding of federal programs for children had already begun under the Reagan administration. Many of these changes contradicted recommendations made by the Select Panel. With the passage of the Omnibus Reconciliation Act of 1981, Title V was combined with six other separate programs (genetic diseases, adolescent pregnancy, Sudden Infant Death, hemophilia, and Supplemental Security Income) to create the Maternal and Child Health Care Block Grant Act. Though initially the Administration proposed a much broader block grant of adult and child services, child health advocates were able to convince Congress to limit the block to child-oriented services. The Administration proposed this system of funding and administering programs, it said, to eliminate duplication of administrative effort and to increase local control of the programs.

Many of us in Congress were not fully persuaded that the block grant was a better approach, but my personal acquaintance with several state officials whom I knew to be deeply committed to high-quality services convinced me to vote in favor of giving the states more discretion in administering these maternal and child health programs. The problem, however, was funding. In fiscal year 1981, before the Maternal and Child Health (MCH) block grant was created, the total authorization for the seven categorical programs was $558 million, and the appropriation for that year was $456 million. When the MCH block grant was created, however, the authorization ceiling was set at $373 million, a reduction of over 33%. Moreover, the Administration only requested $289 million in funding for fiscal year 1982, and it was only with the help of a vigorous lobbying effort by MCH advocates that I was able to get the appropriation increased to $346 million for that year, still $27 million below the authorized ceiling. The fiscal year 1983 appropriation was the full $373 million, but this was still a full 33% below the 1981 funding level without taking into account inflation in health care costs, which was in annual double digit figures.

This reduced funding, combined with similar 1981 funding cuts in Medicaid, staggering unemployment, and skyrocketing health care costs, had a devastating effect on maternal and child health care services across the country. By the end of calendar year 1982, 31 states had reduced or eliminated Medicaid services important for mothers and children, including the imposition of new limitations on hospital, physician, clinic, and prescribed drug services for pregnant women, and had cut primary and preventive services for infants and children. Some states had eliminated their Aid to Families with Dependent Children (AFDC) programs for two-parent unemployed families, which also had the effect of eliminating these families from the Medicaid program. In all, about 700,000 children lost Medicaid coverage because of the AFDC cuts made in 1981 by Congress at the Administration's request. Scores of MCH-funded clinics closed or substantially limited services. In some parts of Detroit, the infant death rate hit 33 per 1,000 live births, the same death rate as in Honduras, the poorest country in Central America.

In Iowa, the number of mobile field clinics was cut, forcing a reduction in the number of children served by about 30%. Many other examples could be given from such states as Alabama, Idaho, Illinois, South Carolina, Ohio, and New York. In my home state of Arkansas, the largest maternity clinic in Little Rock is still so overburdened that it refers away about half of the women who seek help. It will not see any women for the first time who are over 28 weeks pregnant, and the waiting time for those who do get to see a doctor is about 5 weeks. Eight Arkansas counties have no child health clinics at all, leaving about 45,000 children without services. One out of four Arkansas children lives in poverty, and 60% of these children are ineligible for Medicaid ("Impact of Federal Spending Cuts," 1983).

In response to these and other horror stories, as part of the so-called jobs bill enacted early in 1983 as Public Law 98-8, Congress made a one-time additional appropriation of $105 million for the MCH block grant for fiscal year 1983. These additional funds were sorely needed and welcomed by the states, but they probably will make no more than a dent in the overall problem. So far, there has been little interest in Congress in restoring the Medicaid cuts made in 1981, although there is room in the 1984 budget for a special $200 million program to provide Medicaid coverage to poor pregnant women who fail to qualify for AFDC. I am not optimistic, however, that this program will be enacted into law.

Cost Effectiveness

The current state of affairs in the area of preventive health care for children makes absolutely no sense from a public policy perspective. Completely aside from the profound moral implications raised by failing to guarantee adequate funding for the health of our nation's children while at the same time funding hundreds of less important ventures, preventive health services for children and pregnant women should be emphasized by federal policy because they are absolutely cost effective. For example, a study by the Center for Disease Control showed that $180 million spent on measles vaccination programs between 1966 and 1974 saved $1.3 billion in medical care and long-term care by reducing deafness, retardation, and other problems. Similarly, a 1977 General Accounting Office report found that the costs of screening at birth and treatment of seven common disorders was less than one eighth the projected costs of caring for an impaired child over a lifetime. In Mississippi it costs $1,100 to provide complete prenatal care to a pregnant woman in comparison to the $22,000 cost of providing institutional services to a child born with handicapping conditions as a result of the mother's lack of health care. And this list could be extended.

It is, therefore, clear that federal dollars spent on preventive health care for children and pregnant women are a wise investment in our nation's future, and we have learned from history that when the federal government has chosen to become involved in child health issues it has made a real difference. As Table 1 shows, since the Childhood Immunization Initiative was launched on a national scale, it has had dramatic success in reducing the incidence of childhood diseases, and the combined federal expenditure for the eight years from 1975 through 1982 was only $205.4 million, or about the cost of one B-1 bomber.

Future Federal Involvement

What, then, should be the policy at the federal level on preventive health care for children? First of all, we should maintain our commitment to the childhood immunization program. We can carry it out effectively for about $42 million a year and save incalculable dollars in the long run. Second, we should ensure adequate funding for the Maternal and Child Health Block Grant. I have introduced a bill, S. 2013, that would increase the authorized funding ceiling from $373 million to $499.5 million. It is important to keep in mind that even this level of funding would be well below the 1981 appropriation for these programs, adjusted for inflation. I am encouraged by the interest in this measure and by the fact that the House of Representatives last summer passed a bill that would increase the authorization to $483 million. Third, we should take a hard look at the Medicaid program. It could be amended to ensure preventive health care for pregnant women who are in poverty but who are not currently covered by Medicaid because they do not qualify for Aid to Families with Dependent Children. Finally, we need a more comprehensive and more thoughtful federal policy in the area of preventive health care for children. In cooperation with the states, we need to set child health goals for the year 2000, and then put in place the programs necessary to meet those goals.

There would be nothing experimental about providing sound preventive health care. It would be relatively inexpensive. It would require no new technology, nor would it involve any particular risk, for

Table 1
Reported Cases of Childhood Diseases From 1975 to 1982 (With Annual Appropriations)

Disease	1975	1976	1977	1978	1979	1980	1981	1982	1975–1982 (% change)
Rubella	16,652	12,491	20,395	15,269	11,795	3,904	2,077	2,325	−86
Measles	24,374	41,126	57,345	26,871	13,597	13,506	3,124	1,714	−93
Tetanus	102	75	87	86	81	95	72	88	−14
Mumps	59,647	38,492	21,436	16,817	14,225	8,576	4,941	5,270	−91
Pertussis	1,738	1,010	2,177	2,063	1,623	1,730	1,248	1,895	+9
Diphtheria	307	128	84	76	59	3	5	2	−99
Polio	8	14	18	15	34	9	6	8	0
Appropriation for fiscal year (in millions)	$7.5	$8.2	$14.5	$33	$46.9	$30.3	$30.4	$34.6	

Note. Source: Center for Disease Control.

we know that providing adequate perinatal care leads to healthier babies and that childhood immunization dramatically reduces the incidence of preventable childhood disease. We also know that these programs are highly cost effective, and this is important when huge budget deficits require an even closer scrutiny of federal spending programs.

In my judgment, our children deserve no less than our best efforts in providing preventive health care. We as a nation have a moral obligation to ensure to the maximum extent possible that each child gets a healthy start in life. And if we are willing to make this a national commitment, I think it would make the Founding Fathers and Mothers smile.

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Senator SARBANES. This is a subject in which Senator Bumpers has had a very keen interest ever since his days as Governor of Arkansas, when he instituted a comprehensive immunization program at the State level. I will read several paragraphs from his letter:

I believe that the availability of preventive health care for every child and expectant mother must be considered part of the basic foundation for the welfare and strength of this Nation. Since 1970, I have been involved in debates on the proper role of the Federal and State governments in financing public health programs for our citizens. Unfortunately, the decrease in the availability of public health and nutrition services since 1981 has slowed or reversed the progress we have made in improving many key public health indicators and called into question our ability to reach the Surgeon General's 1990 goals for lowering the rates of infant mortality, post-neonatal mortality, and low birthweights.

We shouldn't compromise our goals for 1990, but we must take action in order to meet these objectives. Last week, the Department of Health and Human Services announced the latest figures on health-care expenditures for 1985. The Nation spent $425 billion on health care in 1985, an amount equal to 10.7 percent of the GNP. Two figures in the report especially disturb me: the total government expenditures for public health activities, $11.9 billion, or 2.8 percent of total health-care expenditures, and $7.4 billion for noncommercial research, or 1.7 percent of total health-care expenditures. Our investment in public health and research is woefully inadequate.

The United States has been a world leader in developing the most sophisticated technology to save desperately ill newborns. Yet, we are also a leader in the industrialized world in the percentage of low birthweight babies who need these sophisticated services. We should be proud of our biomedical leadership, but we should also be very concerned about the delivery of preventive care. We need to improve our investment in preventive health programs because the long-term savings from this investment will help us to ensure our leadership in medicine and improve the public health.

We're fortunate this morning to have an unusually distinguished group of witnesses, and of course I'm particularly pleased and proud that a number of our outstanding medical institutions in Baltimore are well represented.

We will have two panels subsequently, but first we will hear from Dr. Albert Sabin, who will be our leadoff witness.

Dr. Sabin really needs no introduction. Through his work, he has given us the means, if we will only use them, virtually to eliminate polio, measles, and other communicable diseases as serious threats to our children's health. The magnitude of his contribution is not limited to one nation or, indeed, one generation. His contributions are worldwide and are enduring.

Dr. Sabin, it's a great privilege to welcome you.

STATEMENT OF ALBERT B. SABIN, M.D., SENIOR MEDICAL SCIENCE ADVISER, FOGARTY INTERNATIONAL CENTER FOR ADVANCED STUDIES IN THE HEALTH SCIENCES, THE NATIONAL INSTITUTES OF HEALTH

Dr. SABIN. Mr. Chairman, until I heard you just now, I didn't have any idea of what kind of information or judgment you may have wanted from me when you invited me to appear before you. I thought I would soon find out, and I've already found out something.

I've been asked to make some introductory remarks. And now I think, having heard you, that my introductory remarks will have some bearing on the problems you mentioned.

In 3 weeks, I shall be 80 years old. I became involved in research on various infectious diseases while I was still a student, about 60 years ago. The unfinished business with which I'm still concerned

now is the use of a special strategy for the rapid elimination and continuing control of polio, measles, and other vaccine-preventable diseases of children in the economically undeveloped countries where they continue to be a very important public health problem.

But today's hearing, I understand, is concerned with child health in the United States, so I will not say anything about the economically undeveloped countries. My personal information on this subject is largely indirect. Permit me, therefore, to give you my views on some of the leading problems in child health in the United States and on some possible approaches for dealing with them.

What I am about to say represents my own views and not that of the organization with which I'm affiliated.

First, a generalization that the major health problems of a population, or any subunit of it, depend on the level of economic development. The challenge, as I see it, is not to wait until economic development brings about the necessary changes for all sections of the population, but to develop programs that may be effective before economic development can step in.

At the beginning of this century, conditions were so bad in the United States—I mean economic conditions—that about 175 out of every 1,000 live-born children died before they were 1 year old. And it was worse for black children—about 330 of every 1,000 live-born children failed to survive their first birthday. The leading causes of death and misery were bacterial infections, undernutrition, and malnutrition. Currently, the overall infant mortality in the United States is only 10 to 11 per 1,000 live-born children overall, and still twice as high for black children—I would venture to say not because they are black, but because more of them are born in very poor families.

I mention this, digressing here, because I think it is important to pinpoint the actions, and the actions are mostly needed where poverty is worse.

The marked decline in overall mortality from bacterial diseases occurred in association with the gradual improvement in the standard of living with more food and clean water, more and better housing, sanitation, hygiene, and education—and all this happened before progress in medical science provided its share for combating pneumonia, tuberculosis, typhoid, dysentery, et cetera.

Now, what is the magnitude of some of the child health problems in the United States today?

You have already referred to infant mortality. Specifically, there are still about 40,000 live-born babies—that's more than a percentage thing to bring it to our mind—who die each year before their first birthday, a number that is much larger than the total of all age groups who die each year of AIDS. And yet, the public attention is concentrated on AIDS and is not concentrated on the 40,000 babies a year who don't even get to have a chance at life.

It is also estimated that about 200,000 children are born each year with or develop later mental or physical defects and that, as a result, there are approximately 7 million retarded persons distributed among 20 to 25 million families in the United States.

Learning disabilities affect an estimated 15 percent of the U.S. school-age population, which translates to 150,000 per million school-age children. Percentages don't somehow leave an impres-

sion on the mind—15 percent. But it's 150,000 out of every 1 million school-age children in the United States have learning disabilities.

Each year, more than 3 million pregnancies are unintended, a tragedy, including nearly 1 million among teenagers, a very serious problem of children having children. Births to teenage mothers are twice as high, 18 to 25 percent, among black, American Indian, Mexican, and Puerto Rican mothers than among white and Cuban, 9 to 12 percent, compared with only 1 percent among Chinese in the United States, and 3 percent among Japanese, indicating that certain things could be done. Things the Chinese can do are not impossible for other members of the population. The issue is how.

Low birthweight babies that you mentioned are more than twice as common among black mothers, 12.8 percent, than among white mothers, 5.7 percent. The issue in the United States about low birthweight is not the whole population of the United States, but specifically, those who are poor. Again, the blacks are that way, not because of their color, but because they are poor.

My point in all of these statistics is that poverty continues to be a most important factor in child health problems in the United States. And the issue is what to do about it.

Now let me turn to another field.

Although polio caused by polio viruses, and there is some polio that is caused by other viruses, has been completely, or almost completely, eliminated from the United States, not from the world, but from the United States, and measles has been reduced to small numbers by vaccination, not eliminated, I regard chickenpox, varicella, rather than whooping cough, as the major challenge in the United States. About 1,000 cases of chickenpox per million total population were reported in 1983, which calculates to about 240,000 reported cases a year now, and the number of reported cases may be only 10 percent, one-tenth, of the total, as was the case with measles, when only 10 percent was being reported before the vaccine era.

More important, however, is that the chickenpox virus, after producing the lesions on the skin, remains dormant in the spinal area, and later in life causes a severe disease, herpes zoster—shingles—a debilitating disease that affects an estimated 8 percent of all human beings. What does 8 percent mean? It translates to 80,000 per million population wherever people are in the world.

Now there's good reason to believe that prevention of chickenpox by vaccination would also prevent the often agonizing herpes zoster. A live virus vaccine reported by Japanese scientists in 1974, although found to be effective in tests also in this country, is still not available for general use.

In my judgment, the judgment of an impatient old man, the effort has been too small, too slow, and too unjustifiably cautious. I'm thinking of my own colleagues now—too unjustifiably cautious—when one considers how much misery could ultimately be prevented by proper mass use of this vaccine.

One other note about vaccines that must continue to be used against polio, measles, whooping cough, and so forth, because we cannot stop. It's not like smallpox. Their use is being greatly im-

peded, the use of these vaccines, greatly impeded by the epidemic of litigation against the vaccine producers in the United States.

Let me illustrate what this really means. As a result of this litigation, a dose of oral polio vaccine, which costs less than 2 cents when sold in developing countries, not by subsidies but at a profit, now costs a pediatrician in the United States $8—less than 2 cents elsewhere, $8 here. A dose of measles vaccine that sells elsewhere for less than 10 cents—10 cents—costs $10 here now for a pediatrician.

Wait a minute. I've got it wrong. It costs $15.

And a dose of diphtheria pertussis and tetanus, DPT, that also sells for less than 10 cents, recently jumped to $15 a dose to the pediatrician.

As I see it, this has gone too far. And there's no use asking the Government of the United States to subsidize this kind of scandalous business without doing something about it. I believe that it is time for Congress to pass a proper law, and I can explain what I believe a proper law is later, that will put an end to such litigation and provide another mechanism for handling possible complications and make sure that the money that is provided can be used for other things than supporting members of your profession, Mr. Chairman. We're not all the same.

Finally, I want to conclude, there are, of course, many other important child health problems that I have not mentioned. To deal with some of those problems, new knowledge is needed, new knowledge. And the Government responsibility for that is in the National Institute for Child Health and Human Development, which has existed now for more than 20 years.

However, I believe that new social approaches, particularly those involving compassionate community participation, also might have an important role.

I hope I've not taken too long, Mr. Chairman.

Senator SARBANES. No, it's been very helpful. We appreciate it very much, Dr. Sabin.

Let me ask just a few questions. First of all, could you comment a bit on the tradeoff, as you see it, between spending money for preventive purposes, either for vaccines or the women and children's feeding programs, and so forth, and money that has to be spent if such preventive programs are not put in place and then we later have to engage in a number of treatment programs?

Dr. SABIN. As I see it, this is an issue about which there can be no argument. The argument is about how best to do it. The argument is how to utilize available knowledge and procedures to bring to bear on prevention with the knowledge that we have currently available, and to really determine what knowledge is not available and to make sure that we get it.

I think, and nobody will argue about the basic issue, that it costs more to treat the consequences than to prevent. But how to prevent, that is the issue, Mr. Chairman.

Senator SARBANES. Well, if you were the dispenser of funds and were given a significant amount of money to use for the purpose of improving child health care, what would be the three or four or five programs that would be at the top of your list, either existing

programs to be supplemented and strengthened, or new programs to be instituted?

Dr. SABIN. I would eliminate myself from such a decision because I think this requires a knowledge of what is going on, what is being done, that I do not have.

But I did mention several things that are certainly not the most important, that the Government should do.

The Government must put an end to litigation by lawyers of issues that are not for juries to decide. And I know there is some legislation that's been going around the Halls of Congress, but I'm not at all sure that they get to the heart of the problem.

The heart of the problem is to end it all, in my judgment, and to establish some mechanism comparable to workmen's compensation, in which there are special commissions competent to judge that will judge the issues involved in any individual case, and then when indicated, or even when in doubt, provide compensation for a person, a child or adult, that is considered appropriate and not that is based on an appeal, an emotional, illogical appeal to a jury.

That's not the most important problem. If I may be allowed another generalization on this question you asked me, I would in general not try to cover the waterfront. Poverty—where poverty is, you can do the most in child health. And therefore, I would want to have the information on what is being done now and what could be done.

I'm not against charity, supporting those that have nothing, that go hungry, or mothers that don't have enough to eat and therefore give birth to children who are born with low birthweight and cannot survive very long.

But instead of concentrating across the board, search out the areas of poverty.

Now, I cut out articles sometimes. This is one that the Catholic bishops, 2 months ago, made a statement. And they said that "Today, children are the largest single group among the poor which seriously threatens the Nation's future."

Now, Senator Moynihan and I had given some lectures at Harvard in which he stressed the same issue. That so many people are poor, the bishops continued, in a nation as rich as ours is a social and moral scandal we cannot ignore.

And in my judgment, I think we also cannot wait until trickle down gets to them or rely entirely on immediate help. But there must be an approach in which special programs involved in getting at those people, at those mothers, at those infants which do not depend only on temporary support, but provide some sort of mechanism in which they can become a more dignified group of society.

Senator SARBANES. In the last few years—and I particularly mention this question because of Senator Bumpers' letter to this subcommittee, which I read earlier and included in the record—we in the Congress have faced the issue of trying to restore money in the budget for immunizations because the budget, as submitted to us by the administration, has sought to cut sharply or eliminate those funds.

I guess the question is, first of all, if that were to happen, what impact do you think it would have, both in the short run and the long run? And second, assuming, as I assume is the case, that dis-

ease will rise over time, could we try to reverse such a trend simply by going back to the old level of immunization or would we have to launch a crash program in order to deal with the problem?

Dr. SABIN. Again, somehow on top of my head is the issue that the cost of immunization in this country can be cut tremendously. There's a tremendous overpayment for vaccines.

And the second part is that immunization in this country, as evident by statistics that have been published in Health USA, 1985, shows that already, immunization among children 1 to 4 years of age, 1 to 4 years of age, as determined by a house-to-house survey by the National Center for Health Statistics, in 1984, was only 40 percent among nonwhite children, only 40 percent, and 58 percent among white.

Now it was higher than that in 1970. Fortunately, the oral vaccine has the property of immunizing children and persons who do not receive the vaccine and it has cut the chain of transmission, the virus, the virulent virus, to such an extent that even with such a low rate, this country has eliminated polio.

On the other hand, with measles, it has not changed. It is wrong to say that it has changed. For example, among black and other nonwhites, from 1970 to 1984, the immunization rate against measles of 1- to 4-year-old children has gone up from 42 to 52 percent.

It's not enough. We will sooner or later get another outbreak of measles, not involving only high school students and college students and certain isolated groups, but more. Measles is not like polio vaccine.

And when the cost of a dose of measles vaccine is so high, so unnecessarily high, that is not correct. And furthermore, I think there should also be more pinpointing of groups who need it and programs that should involve immunization without going to a doctor's office.

And the Government doesn't pay these high prices when the Centers for Disease Control buys vaccine for clinics, but still high.

I think we could face a return to a higher incidence of measles than we have now. But that is still not the most important problem as far as child health is concerned. I think there are many other problems which go hand in hand with the poor sections of the American population that need to be attacked. By attacked, I mean examine what's being done now and find new ways.

I think just putting in more money will not do it. I'm sorry. I think more than that is required. More money alone will not be the answer.

Senator SARBANES. Do you know those rates of immunization compared with those in other advanced industrialized countries?

Dr. SABIN. They're very low because there are no litigation problems in other industrialized countries in Europe. In Europe, many countries already have commissions to deal with occasional complications or belief that something is wrong. With a child who's been vaccinated, very often mere association is involved. Not cause and effect.

I think it's in the United States that this thing is so absolutely incredible and way, way out of line. Scandalous is the word that has been applied to it.

Senator SARBANES. Would the rates in the other countries be roughly in the 80 or 90 percent range of immunization?

Dr. SABIN. Well, I haven't had time to find out what it is now. I did call up the other day, on Friday, to find out what an American pediatrician pays. But I didn't have time to find out what it is in the other European countries because the European countries have vaccine production centers.

It is not the fault of the vaccine producers. The vaccine producers are being very carefully controlled and regulated by the Public Health Service here, as well as in other countries. They're just taking advantage of juries that say, well, here's a poor child that's been injured and here's the rich corporation. And most of the awards are not warranted.

Senator SARBANES. The final question I want to ask is on the funding of research with respect to child-health problems.

First of all, how important was Federal funding for your own efforts and how important do you see the Federal Government as being in the research role with respect to child health?

Dr. SABIN. When I was doing my work, Federal funding did not exist. I got my funds for research from the National Foundation for Infantile Paralysis. It was only after World War II that Federal funding came into its very important role.

At the present time, as I said in my introductory remarks, the Institute for Child Health and Development, not only through its internal programs within the Institute, but through the grants and contracts that it gives to institutions of higher learning all over the United States, I think that is a center where a very comprehensive search for new knowledge goes on.

I am told, from what I've seen, that their present budget that has been proposed is $68 million too low.

I'm not going to make a judgment whether it is too low or not, but the people who know, who deal with the problem, say that it's $68 million too low. And it's probably too low. But that is where the search for new knowledge is involved.

But to deal with the problems of the poor, I think it is much less a problem of new knowledge than it is a problem of using what we know properly, and in a different way.

Senator SARBANES. And it's your view that with properly targeted programs, we can deal, at least to some extent, with the health programs of the poor ahead of dealing with the entire range of poverty problems which the poor face?

Dr. SABIN. I made a study of this in China, the People's Republic of China in 1980. It is a country that is economically very undeveloped. But the advances in public health have been so high. And I wrote a summary after making a study there at the end of 1980, of the advances in public health before economic development.

And what are these main advances and what are the mechanisms? The advances have been in maternal and child health, chiefly, and in the control and elimination of tuberculosis and other diseases.

But from the point of view of maternal and child health, what was outstanding in my mind was that no mother was hungry. They were well fed, so that they rarely gave birth to children of low weight or prematurely. That's been tremendously cut down. But

they had enough milk in their breasts to feed their babies, practically all of them, for 6 months, and that cut out a tremendous loss from intestinal infections early in life, with almost 70 percent breastfeeding in the first 6 months.

Now it's all right to encourage breastfeeding. Breastfeeding is important. But that's not enough. Not enough.

What the Chinese have done is to make it possible for mothers to breastfeed. So that in the agricultural communities, there are places where they leave their children after they go to work and they get time off every 3 or 4 hours to come—they're close enough, these children's centers—to come and feed their babies. And in factories and industrial centers, the same way.

The women work and they work very hard. But they have opportunities for breastfeeding their children.

These things are very important, to take care of that part of the American population that is underfed, malnourished—I'm thinking first of all of the mothers. I think it's important to concentrate on where it is and see what more can be done than giving them a ticket to go and get some more food.

I don't know what I would do. As I said before, I don't want to make any recommendations without knowing what the state of the art is now, what's being done. But I have a feeling that more can be done.

And I also have an experience of community organization. It's not enough to say get the community involved. It has to be good organization.

It was 23 years ago, 24 years ago now, that in Phoenix, AZ, the method for getting community involvement for the mass immunization for polio was developed by a pediatrician. I didn't do it.

The involvement of the community was so well organized, it became contagious. They did it without any money, except small voluntary contributions. I've always regretted the fact that this great achievement in which about 100 million Americans received vaccine in a short period of time in this country has not been extended to other activities in the community.

People want to do something, but they need organization. And to have organization, you need a plan.

These are generalizations that may not be very immediately helpful, but I think they're guidelines for action.

Senator SARBANES. I think they are, too. You've been very helpful and we appreciate your testimony this morning very much.

Thank you very much.

Dr. SABIN. Thank you very much.

Senator SARBANES. I think now we'll go to our first panel. I'd like to ask Sara Rosenbaum to join the first medical panel. Sara Rosenbaum is the director of the health division of the Children's Defense Fund, which has done some extraordinary work in this field.

In our first panel, we'll have Dr. Frank Oski, the chairman of the Department of Pediatrics at the Johns Hopkins School of Medicine; Dr. David Paige, professor of maternal and child health at the Johns Hopkins School of Public Health; and Dr. Felix Heald, professor of pediatrics and director of the division of adolescent medicine at the University of Maryland School of Medicine.

And then we'll follow that with the second panel of Dr. Tildon, Dr. Davis, and Dr. Kolb.

Ms. Rosenbaum, why don't you lead off?

STATEMENT OF SARA ROSENBAUM, DIRECTOR, HEALTH DIVISION, CHILDREN'S DEFENSE FUND

Ms. ROSENBAUM. Thank you, Senator. We're delighted to have the opportunity to testify before you today. And I feel very fortunate to have followed Dr. Sabin because, of course, at the Children's Defense Fund, our primary reason for existence is to represent the needs of low-income children. And so it certainly, to put it mildly, rang true that it is poverty which most likely underlies very serious health problems that face many of our children.

I'd like to cover in my brief oral statement two or three central points.

One of those is the long-term nature of poverty and uninsuredness in America. I think that one of the aspects of childhood poverty that needs to be understood at this point in the United States is that there are a number of factors feeding into childhood poverty which means that not only do we have a widespread problem, but it's a very deep, intractable problem. And it goes hand in hand with the problem of uninsuredness. And that problem, of course, means that there are many low-income children who simply do not have the family resources, either personal or third-party coverage, to purchase the kinds of health care that Dr. Sabin enumerated.

By 1984, about one in five American children and one out of every two black children and about two out of every five Hispanic children lived in poverty. Poverty most seriously affected children who were youngest; that is to say, among children under the age of 6, about one in four lived in poverty.

Underlying these poverty trends are a number of factors, one of which is unemployment, which now in recent years has attained higher and higher norms. Another was the recession of the early 1980's, which, in fact, lifted out of poverty only about 200,000 of the 3 million children who had fallen into poverty.

Most serious, though, and most long term are the changing job market, which has resulted in many, many more families working at jobs that are lower paying jobs, and the failure of the minimum wage to keep pace with inflation. We've had the minimum wage at the same level for about 6 years at this point, so that families are living at extraordinarily low hourly rates. And, additionally, there has been the problem of taxation of families into poverty, families with family incomes at or near the poverty level who, because of our tax structure, have nonetheless paid sizable portions of their income in taxes.

It's this combination of changing employment structure, the lack of the minimum wage to keep pace with inflation, and tax policies that I think are threatening to hold millions of families in poverty over a long period of time.

Because we provide health insurance through employers in the United States, the same patterns that have produced the poverty have produced a severe uninsuredness problem.

We are familiar with the uninsuredness problems of the unemployed. But what I think is less well understood is that the vast majority of uninsured Americans are in fact workers or their dependents. They're people who work at lower paid jobs, whose employers do not perceive a need to offer fringe benefits as a lure to employment. They can hire from a minimum wage job market without fringe benefits.

A family coverage policy purchased on the open market can run anywhere from $2,800 to $4,000 a year. A person making the minimum wage is grossing, a woman with two children making the minimum wage is grossing a family income of about two-thirds of the Federal poverty level a year at this point.

It's completely unthinkable that she would be able to go out and buy a health insurance policy for herself or her children, or even pay a portion of the premiums. More employers are requiring their employees to pay a portion of their own or their family's insurance premiums. And at that kind of income level, she simply can't.

So what we see today is that about three-quarters of the uninsured are workers or their dependents, with children suffering enormously because very often dependent coverage is not offered or simply unaffordable.

The link between uninsuredness and access to health care is an obvious one. Health care is very expensive. You heard Dr. Sabin testify about the cost of even a series of immunizations at this point. It is nothing if you're a two-child family to have two children with very routine medical and dental problems costing about $1,000 over a year if you add up well-child visits, sick-child visits, dental care, eyeglasses, other services.

It's simply out of the reach of anybody who does not either have significant family resources or a very good insurance plan.

As a result, when we look at the health access of poor and uninsured children, we find that they are roughly half as likely to get medical care and significantly more likely to go for a full year, even among young children, without ever seeing a doctor once, without ever even making an emergency room visit, simply because they do not have the resources to pay and because health care, even in public facilities at this point, is very often not provided free of charge. There is a charge for services.

The second point I'd like to make is that, in the face of these statistics, these are not new statistics—they've been going on now for a number of years. We've been aware of them, tracking them. The administration has been tracking them. We have seen enormous cuts in Federal health programs. And by health programs, I include not only medical care programs, but programs, as Dr. Sabin indicated, that really go to the quality of life that a child needs.

These cuts, moreover, came on top of gross stagnation in these public health programs. Throughout the 1970's, because of very high medical care inflation, many States purposely withheld increases in their AFDC and Medicaid benefit levels because they couldn't afford the cost of medical care for all the people who would be brought into the program.

To give you an example, from Maryland, Maryland's AFDC payments today, if we look at those payments in real dollar terms com-

pared to what they were back in 1970, have suffered a 28-percent decline over the 15 years, between 1970 and 1985.

Now because Medicaid, which is our big public insurance program for poor children, is tied to AFDC, that means that Medicaid eligibility has similarly suffered a decline at the very time that uninsuredness has been increasing and poverty has been increasing.

On top of the stagnation, in 1981, and again in subsequent years, we had many—the Reagan administration proposed, and Congress enacted, a series of reforms that were aimed——

Senator SARBANES. I just would like to say that we've made Dr. Sabin an honorary member of the subcommittee. I figure that that will intimidate the witnesses, if nothing else will. [Laughter.]

Please continue. Your entire statement and those very helpful tables and charts will of course be included in the record.

Ms. ROSENBAUM. In 1981, Congress enacted a series of changes in our public health programs that were specifically designed to remove working poor families from those programs.

So that at the very time that we stopped increasing the minimum wage and employers began to cut back in the amount of health insurance that they would offer, and at the very time that taxation was continuing to take a bigger bite out of poor people's paychecks, contrary to popular belief, in fact, not everybody got a benefit out of the 1981 tax cuts—the poor ended up paying more taxes—we also pulled out the rug on Medicaid. We virtually removed from the program families who worked.

So that now States report that less than half of the 1981 caseload that had earned income at that point has earned income today.

In other words, maybe at best we saw 12 percent of the AFDC caseload having earned income. Today, nationally, the figure may be down to about 6 percent.

You simply cannot work and get either Aid to Families With Dependent Children or Medicaid, no matter how poor you are, because you're penalized for the work.

We have also made other terrible cuts and we have failed to feed the programs that would encourage good health. We have cut the Maternal and Child Health Program by about 25 percent after inflation has been taken into account and we today are funding that program at lower real levels than we funded it in 1980, despite the growth in poverty and uninsuredness.

These are all residual programs that might provide some public health services to the millions of uninsured women and children.

WIC is today the one program we have for, as Dr. Sabin indicated, feeding pregnant women and infants and children. WIC is serving less than half of all the people in the country who are eligible for its benefits. In Maryland, Maryland is feeding well less than half of WIC eligibles.

Programs such as community and migrant health centers do a remarkable job of serving underserved areas, but there are only enough centers to serve about 5 million Americans. We have 20 million more living in underserved areas.

There is, as Dr. Sabin said, no real mystery to what needs to be done. There are very, very specific things that could and should be done immediately and in advance of general overall economic development for poor families.

There is no excuse for Medicaid serving less than half of all poor children. We could expand that program tomorrow to cover all poor children and to make it possible for near-poor families to buy pediatric health coverage on a subsidized basis.

We should expand WIC tomorrow to close the gap between the need and the number of women and children served.

As was mentioned, there is simply no excuse for not funding immunizations, again, recognizing that something needs to be done about the spiraling cost of immunizations. Since, obviously, the remedies are controversial, we cannot simply sit back and let the stockpile dwindle to nothing and let children go unimmunized because there isn't enough money to buy vaccines.

We are well on the way, we think to very important tax reforms that would provide substantial relief to working poor families. We also urge a revision in the minimum wage and in direct expenditure programs for families that simply do not have earned income.

Thank you.

[The prepared statement of Ms. Rosenbaum follows:]

PREPARED STATEMENT OF SARA ROSENBAUM

Mr. Chairman and Members of the Subcommittee:

Good morning. The Children's Defense Fund is pleased to have this opportunity to testify today regarding child health programs and standards.

Perhaps the most appropriate way to begin is to tell you about two children. Shawn is a young boy who lives in Missouri. This is Shawn's story as he told it before a committee of the United States House of Representatives last year.

> I was asked to tell you what it's like to live in a single-parent home with no money.
>
> Sometimes it's sad because I feel different from other kids. For instance, when other kids get to go to fun places and I can't because I don't have enough money and they do.
>
> Most of my friends get an allowance but I don't because my mom doesn't have enough money to pay me. They get to get the things that they want and need and I don't.
>
> The other day in school we had this balloon contest, and it only cost one dollar and out of three years I haven't been able to get one.
>
> Me and my brother are a little hard on shoes. This summer the only shoes we had were thongs and when church time came, the only shoes we had to wear were one pair of church shoes. The one that got them first got to wear them. The one that didn't had to wear a pair of my mom's tennis shoes or my sister's.
>
> I have a big brother. He is not my real brother. He is with the Big Sisters Association. Once I tried to tell my big brother about welfare. It was so embarrassing I was about to cry. I don't like Joe just because he takes me a fun place every week. I like Joe because he makes me feel special.
>
> Sometimes I pray that I won't be poor no more and sometimes I sit up at night and cry. But it didn't change anything. Crying just helps the hurt and the pain. It doesn't change anything.

> One day, I asked my mom why the kids always tease me and she said because they don't understand, but I do understand about being on welfare and being poor, and it can hurt.

The second child was named Shamal Jackson. Shamal would have been in the class of 2000, had he lived:

> Shamal Jackson was born in New York City on September 28, 1984, and died on May 20, 1985, according to a national newspaper report. During his short life he never slept in an apartment or house. His family was always homeless. He slept in shelters, welfare hotels, hospitals, the city welfare office, and riding the subways late at night. Shamal was a low birthweight, disabled baby, and he died of a virus complicated by an infection and his generally frail condition. Robert Hayes, of New York's Coalition for the Homeless, said, "Shamal died because he didn't have the strenght to resist the system's abuse."

In 1984, more than one-fifth of America's 62 million children under age 18 lived in poverty.[1] Nearly one out of every two black children, two out of every five hispanic children and one out of every six white children lived in poverty that year (Table I).

Although these statistics are sobering, their causes are not simple. Lying beneath them are disturbing currents that carry grave implications for both poor children and the nation's future.

Widening and Deepening Childhood Poverty

A more detailed examination of childhood poverty statistics indicates that the nation has been experiencing not merely a growth in, but also a widening and deepening of, childhood poverty. Between 1959 and 1979, childhood poverty rates fell 40.5% overall, 44.7% for white children and 37.7% for black children. Between 1979 and 1984, however, childhood poverty increased by 31.3% overall, 41.2% for white children, 13.2% for black children,

and 39.7% for hispanic children. (Table I) The greatest poverty increases occurred in families other than female-headed families, although female-headed families were more likely to be poor.

We can see that this widening, deepening childhood poverty was no mere flash in the pan. While the number of white children living in poverty declined slightly between 1983 and 1984 (Table I), nonetheless, 41.2% more lived in poverty that year than five years earlier. Between 1983 and 1984, the percentage of black children living in poverty remained the same, while the percentage of hispanic children in poverty actually increased. (Table I)

One indication of how deeply ingrained in American society childhood poverty is becoming is that of the more than 3 million children who fell into poverty between 1979 and 1982, the recovery which began in 1983 had, by 1984, lifted only 210,000 children out of poverty.[2] The 1984 childhood poverty rate was still greater than at any time during the 1960s. At the rate of improvement that took place between 1983 and 1984, it will take an additional 30 years for the nation to simply return to the childhood poverty rates it experienced in 1979,[3] when nearly one out of every nine children, over two out of every five black children, and more than one out of every four hispanic children was poor. (Table I)

Another indication of the growing seriousness of childhood poverty is that it is the youngest children -- those who have the most to gain from a good start in life -- who are the poorest.

Poverty most widely affects the nation's youngest, most vulnerable children. By 1984, while one out of five children was poor, nearly one out of every four children under age six was poor (Table II). Our youngest children were more likely to be poor than any other group of children. Indeed they were more likely to be poor than any other age group of Americans.

The Causes of Child Poverty

It is evident that childhood poverty in America is not some passing phenomenon. Instead, we are witnessing a series of major changes in both the formation and maintenance of families in the United States -- changes which translate into profound disadvantage among children. As was so compellingly identified by Senator Daniel Patrick Moynihan in his 1985 Harvard Godkin lectures, poverty among American children today is the result of a failure of a series of American policies toward families.

The major changes affecting American families can be roughly grouped into two types. First, over the past two decades the nation has experienced a significant movement away from formation of two-parent families. Between 1970 and 1983, although the birthrate among young women dropped significantly (Table III), the percentage of out-of-wedlock births to young mothers, especially young white mothers, increased significantly (Table I), as did the divorce rate.[4] Children living in female-headed families in 1984 were over four times more likely to be poor than those living in other families (Table I).

Out-of-wedlock birth patterns have numerous causes, including the increasing social acceptance of single parenthood. But clearly, a major factor in the growth of out-of-wedlock families is rampant unemployment among young poor men, especially young, poor, minority men, that make them unsatisfactory marriage partners. By 1983, one out of every 2 black children born in America was born out-of-wedlock.[5] In December, 1985, when national unemployment rates stood at around 7%, over 40% of young black men ages 16 to 19 were unemployed -- an unemployment rate about 6 times the national average (Table III-A). Entry-level manufacturing and industrial jobs are fast disappearing in America, as the most recent unemployment statistics for states such as Texas and Illinois indicate. Furthermore, unlike prior generations of ghetto-dwellers, minority families have remained trapped in inner cities with poor job opportunities and even poorer school systems.

The longterm erosion of supports and opportunities is not merely precluding or subverting the formation of two-parent families, however. It is also creating deep impoverishment among those families (whether headed by one or two-parents) in which the family head is in the workforce.

The withdrawal of government support for lower-income working families has taken several forms. First, families earning the minimum wage or close to it are far more likely to be poor today than a decade ago. In the past, the minimum wage often has been increased to keep pace with inflation. But for the past five years it has been held at the same level. As a result, in real dollars

(adjusted for inflation) a minimum wage worker in 1986 is taking home less than four-fifths of what he or she earned in 1980. (Table [illegible])

A comparison of the declining value of the minimum wage to the inflation-tied rise in poverty levels shows that this drop in earnings value pushed many American families into poverty. Today, the more than 4 million American hourly workers who earn the minimum wage, and the nearly 2 million with hourly earnings below the minimum wage, are not making nearly enough money to provide a family with the basic necessities of life. (Table IV) Indeed, in 1984 more than 11.4 million Americans with hourly wages were paid at such low rates (Less than $4 an hour) that income from a full-time job would be insufficient to bring a family of three out of poverty. In 1979 the total with such inadequate wages was 2.8 million.[6]

Second, given the context of three years of economic recovery, unemployment is nonetheless at historically high levels. In December 1985, thirty-seven months after the end of the 1981-1982 recession, the official unemployment rate still stood at 6.9 percent. After the same amount of time had elapsed following the last major recession (1973-1975), the official unemployment rate was 6.1 percent. Of the 11.5 million workers who lost jobs because of plant closures or relocations from 1979 to 1984, only 60 percent obtained new employment during that period.[7]

We are now seeing progressively higher unemployment rates become the norm. During each recession, unemployment climbs higher than during earlier recessions. During each period of recovery unemployment drops, but not as far as it did during

earlier recoveries. Unemployment now has topped 6.5 percent for sixty-nine consecutive months, a phenomenon we have not seen since the Great Depression.[8]

Third, U. S. tax policies have continued to place increasing burdens on poor families, even as affluent families have enjoyed considerable tax relief. In 1979, a family of four with earnings at the poverty-line paid less than 2 percent of its income in federal Social Security and income taxes. In 1986 that same family, if still earning (inflation-adjusted) poverty-line wages, will have nearly 11 percent of its income taken by the federal government. Tax rates for single-parent families are even higher.[9]

Despite the huge tax cut passed in 1981, a family of four or more making poverty-line wages has been subjected to tax increases -- not just in dollar amounts but in the portion of its earnings that the government takes -- every year since 1971.[10] Between 1980 and 1982 alone, the total federal tax drain on America's poor families grew by 58 percent.[11]

As a result, more and more families see their impoverishment exacerbated rather than relieved by the federal government. And this tax policy has pushed hundreds of thousands of other families with very low incomes into poverty. Poverty rates, which are calculated on the basis of family income before taxes, leave out the millions of Americans -- 2.1 million members of families with children in 1984 -- who in reality are poor because, after taxes, their spendable incomes fall below the poverty level.[12]

Finally, of course, the deep cuts in direct public assistance programs that have occurred since 1980 have landed with particular force on the working poor. The cutbacks made by the federal government in 1981 reduced spending authority for public assistance programs for poor children, including Medicaid, AFDC, the Title V Maternal and Child Health Block Grant and Community and Migrant Health Centers by about 7.5 billion over 3 years.[13] This amount comprised less than 1% of the debt the nation has accumulated since President Reagan assumed office. But the reductions have had a profound impact on children.

The effect of the 1981 reductions, according to a major study of these reductions conducted by the General Accounting Office, was to reduce the average monthly AFDC caseload by 442,000 and to reduce already de minimus AFDC payments by $100 million per month.[14] The chief targets of the reductions were single-parent-headed AFDC recipient who worked. The 1981 budget reductions removed public assistance supports completely for between 38% and 60% of those AFDC recipients who worked, depending on the area in which they lived, and reduced benefits for 8% to 48% of the working poor.[15]

By 1983 the average monthly AFDC payment per family was $312.88, 65 percent of the level fifteen years earlier after adjusting for inflation.[16] And because of the combination of more restrictive program rules and an increase in the number of poor children, participation rates plummetted. In 1978, seventy-six children were on AFDC for every 100 poor children in the

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country. In 1984, that ratio had dropped to fifty-five per 100 (Tables V and VI).[17]

Other developments suggest reduced access to health care among poor children in recent years. By 1984 there were 35 million uninsured Americans -- a 22% increase since 1979.[18] Although children under age 18 comprise only about 25% of the U.S. population, they constituted nearly 40% of the uninsured that year.[19]

Families requiring Medicaid to meet rising health care costs face increasingly serious barriers. As services were reduced and access to care constricted, the expenditures on behalf of each recipient child dropped sharply, from $470.91 in FY 1979 to $406.08 in FY 1983 in constant (1983) dollars.[20] In Medicaid as in AFDC, many fewer children are now eligible when contrasted to the growing population of poor children. (Tables VII and VIII)

Thus, a wide range of American social policies, including education and employment programs, tax policies, fiscal and monetary policies and policies underlying our direct public support programs, have combined to push millions of families and their children into poverty. Moreover, the depth of that poverty is severe. In 1983, 43.7% of poor families with children under age six actually had family income below 50% of the federal poverty line, compared to 38.4% in 1979. (Table IX) Between 1970 and 1985, the real value of AFDC support plummetted in every state but 3. (Table X) And by 1985, no state provided AFDC and food stamp benefits levels that when combined, lifted recipient families out of poverty. (Table XI)

The Consequences of Childhood Poverty

Childhood poverty as broad and deep as that found in America today comes with it a constellation of health risks. Among those risks are living conditions, including inadequate food, poor housing and sanitation, and general family stress and hardship that threaten children's well-being. Poverty and the social isolation, stress, and environmental hazards that accompany it, is associated with health problems in children.[21]

These environmental and social health risks are further complicated by the fact that poor children are over three times more likely than non-poor children to be completely uninsured 22 and are obviously without the out-of-pocket resources necessary to secure access to basic health care. Uninsuredness in the United States has grown dramatically in recent years, as more workers have increasingly gained employment in minimum wage jobs that include few or no fringe benefits, as employers who do offer insurance have reduced their contributions to workers' premium costs, as unemployment has grown, and as Medicaid coverage has declined in relation to the poverty rate.

Even routine health care for a baby can cost $500 over the course of a year. This amount equals almost 5% of a poor family's annual gross pay -- a percentage of income considered catastrophic under federal tax law. In short, not only are low income children more likely to be in need of medical care, but they are also in less of a position to obtain it.

Health Risks Confronting Poor Children

Studies that have sought to measure the health status of low-income children indicate that, by any number of key measurements, poor children face greater health risks. Many of the health problems affecting poor children will leave a longterm impact on their ability to learn and work and to generally grow into productive adults.

Poor children are at increased risk of both neonatal and postneonatal mortality and of being born prematurely (which is closely associated with low birthweight, and therefore, with neonatal and postneonatal mortality).[23] Moreover, throughout childhood poor children face a higher risk of death from all major causes of death, including neoplasms, respiratory problems, congenital anomalies.[24] The disparity in death rates among low-income children is also marked when deaths resulting from accidents, poisonings and violence are considered.[25] Statistics indicate that at every age, poor children face a higher risk of death, and the disparity between poor and non-poor children is greater for older children than for younger ones.

Illness and Disability

Poor children are more likely to suffer from certain types of acute illnesses, such as rheumatic fever, haemophilus influenza meningitis, gastroenteritis and parasitic disease.[26] Furthermore, the prevalence of acute illness (or of certain types of acute illness) may be underreported among poor children because, given their reduced access to medical care, their illnesses may never be diagnosed.[27]

Poor children spend more days of restricted activity, lose more school days, and experience more days spent in bed as a result of illness.[28] Furthermore, illnesses in poor children appear to be more severe than in other children, as evidenced by their greater likelihood of activity limitations resulting from chronic illness and their greater rate of complications from illness such as bacterial meningitis, diabetes, and asthma.[29]

Specific Health Problems

Specific health problems are disproportionately prevalent among low-income children. Significantly greater proportions of poor children have elevated blood levels.[30] Poor children are also at higher risk of being left permanently psychologically and learning disabled as a result of lead poisoning.[30]

Poor children appear to suffer greater levels of vision problems that are not corrected.[32] Poor children experience greater amounts of otitis media and are more likely to be left with permanent hearing loss, auditory processing deficits, language delays and behavioral problems.[33]

Poor children are at increased risk of contracting cytomegalovirus inclusion disease, a particularly serious congenital problem that can result in significantly lowered IQ and school failure.[34] Moreover, poor children infected by this virus appear to suffer more severe sequelae than infected non-poor children.[35] Poor children are also much more likely to suffer from iron deficiency anemia, which is associated with poor

development in infancy, conduct and behavioral disorders in school-aged children and decreased attentiveness.[36] Poor children are also at higher risk of a range of psychosocial problems, particularly severe psychosocial problems.[37]

Recent Trends in Child Health

The marked increase in childhood poverty, with its attendant impact on poor children's living conditions, health insurance status, and access to health care, has occurred simultaneously with signals of an erosion in child health status. During the 1970s, as out-of-wedlock births to teens increased, there are indications that postneonatal mortality among babies born to teens increased.[38] Moreover, between 1982 and 1983, post-neonatal mortality increased by 3% nationwide for all races and by 5% for black infants.[39] This rise in black postneonatal mortality was the first such national rise in 18 years (Table XII). By 1983, the disparity in mortality rates between black and white infants stood at it widest point in over forty years (Title XIII).

These postneonatal mortality trends are particularly serious in our opinion. Neonatal mortality is in many ways a reflection of the limits (either scientific or economic) of medical technology. But 80% of postneonatal mortality occurs among infants born at normal weight[40] and is a far greater reflection of the conditions under which poor children live and their access to adequate health services. America has traditionally had a relatively serious postneonatal mortality problem.[41]

The worsening of the postneonatal mortality problem portends worsening health factors for children of all ages, with the youngest children simply succumbing to abuses that older children are sturdy enough to survive. There is mounting evidence that children who are most in trouble physically, psychologically or socially early in life are at increased risk of having problems later on. Conversely, adolescents with problems are more likely to have been the ones who had problems in early life.[36a] It may be years before we know the price they have paid for their survival.

The Consequences of Childhood Poverty to the Nation

We invest in children for many reasons. We invest in them because it is the humane thing to do. We invest in children, because children are completely dependent upon adults to meet their most basic needs. They need adults to provide food, shelter and clothing. They need our help to prepare them for the world of work, to feel valued and valuable, and to feel that they have a fair chance of succeeding.

We also invest in children because many investments are both effective and cost-effective. Since the 1840s, the effects of social conditions on child health has been recognized,[42] and for 200 years America has made social investments in its children.[43] Immunizations, vision, dental and hearing care, and treatment of acute and chronic illnesses all can mean the difference between a healthy and productive young adult and one

disabled for life by preventable causes. Education, employment, and job opportunities all create strong families. Our national unemployment and fiscal policies are in reality our national family policy.

We invest in children because we need our children, and we need them to grow up healthy and resilient. In 1950 there were 17 workers for each retiree. By 1992 there will be three. One of three will be a member of a minority group; one of four will have spent at least part of his childhood in poverty.[44]

We cannot afford not to invest in children. There are those who urge that social spending through programs such as Medicaid and AFDC only causes poverty. Yet this assertion is belied by the fact that throughout the 1970s and 1980s, as social spending fell in relation to both need and as a proportion of national outlays (Table XIV), childhood poverty grew to unprecedented levels. Indeed, our greatest gains in reducing childhood poverty and improving child health occurred simultaneously with the real growth in national childhood expenditures that occurred in the late 1960s and early 1970s.

Through negligence, carelessness, and even through deliberate punitiveness, we have pursued a series of national policies over the past decade that, if permitted to continue uninterrupted, threaten to permanently cripple a significant proportion of the next generation. Those who will work with teens 15 years from now will confront the enormous folly that will inevitably flow from years of childhood poverty, neglect and ill health.

We must ensure that all children have decent family income, health care, adequate food and housing and a good education. All public expenditure programs -- whether direct supports or tax expenditures -- must be designed to promote family cohesion, strength and self sufficiency. Furthermore, health professionals must grasp the breadth of the problem. Remedying the ill health of children in all its manifestations means a great deal more than advocating for more sophisticated medical care or attention to specific health problems. It entails advocating before recalcitrant members of Congress, governors, legislators and local governments for AFDC improvements, for education and job training, public housing, tax reform, and for other measures that fall outside the realm of medical care but well within the sphere of child health.

Thank you.

1. United States Census Bureau, (August, 1985).

2. Ibid.

3. Children's Defense Fund, A Children's Defense Budget (Washington, D.C., 1986).

4. Congressional Research Service, Children in Poverty (Washington, D.C., 1985).

5. National Center for Health Statistics, Advance Report of Final Natality Statistics, 1983.

6. A Children's Defense Budget, op. cit.

7. Ibid.

8. Ibid.

9. Ibid.

10. Ibid.

11. Ibid.

12. Ibid.

13. Rosenbaum, Sara, "Upon the False Altar of Economy" (Speech to the Northwest Pediatric Society, October, 1985).

14. General Accounting Office, Final Evaluation of the 1981 AFDC Changes (Washington, D.C., 1985).

15. Ibid.

16. A Children's Defense Budget, op. cit.

17. Between 1983 and 1984, the ratio of AFDC child recipients to children in poverty rose slightly. This is probably a result of 2 factors. First, between 1983 and 1984, the number of poor children dropped slightly, thereby reducing the denominator. Second, a number of states have slightly increased their AFDC payment levels in recent years, thereby increasing the program's penetration rate somewhat.

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28. Ibid.

29. Ibid.

30. Ibid.

31. Ibid.

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36a. Starfield, Barbara and Pless, Barry, "Physical Health", Constancy and Change in Human Development (Brim and Kagan, editors) (Harvard University Press, Cambridge, 1980).

37. Child Health and Social Status, op. cit.

38. Starfield, Barbara, "Postneonatal Mortality", 6 Annual Review of Public Health 21 (1985).

39. National Center for Health Statistics, Advance Report of Mortality Statistics, 1983.

40. "Postneonatal Mortality", op. cit.

41. Ibid.

42. "Social Factors", op. cit.

43. A Children's Defense Budget, op. cit.

44. Ibid.

Poverty

TABLE I

Percentage of Children in Poverty,
by Family Structure and Race,
1959-1984

Family Type	Hispanic	Black	White	Total
Female-headed Families				
1959	n/a	81.6	64.6	72.2
1969	n/a	68.2	45.2	54.4
1979	62.2	63.1	38.6	48.6
1980	65.0	64.8	41.6	50.8
1981	67.3	67.7	42.8	52.3
1982	71.8	70.7	46.5	56.0
1983	70.6	68.3	47.2	55.5
1984	71.0	66.2	45.9	54.0
% change 1959-1979	---	-22.7	-40.2	-32.7
% change 1979-1984	+14.1	+4.9	+18.9	+11.1
All Other Families				
1950	n/a	60.6	17.4	22.4
1969	n/a	25.0	6.7	8.6
1979	19.2	18.7	7.3	8.5
1980	22.9	20.3	9.0	10.4
1981	24.5	23.4	10.0	11.9
1982	27.8	24.1	11.6	13.0
1983	27.2	23.7	12.0	13.3
1984	27.5	24.3	11.0	12.5
% change 1959-1979	---	-69.1	-58.0	62.1
% change 1979-1984	+43.2	+29.9	+50.7	+47.1
All Families Combined				
1959	n/a	65.5	20.6	26.9
1969	n/a	39.6	9.7	13.8
1979	27.7	40.8	11.4	15.9
1980	33.0	42.1	13.4	17.9
1981	35.6	44.9	14.7	19.5
1982	38.9	47.3	16.5	21.3
1983	37.7	46.2	17.0	21.8
1984	38.7	46.2	16.1	21.0
% change, 1959-1979	---	-37.7	-44.7	-40.5
% change, 1979-1984	+39.7	+13.2	+41.2	+31.3

Source: National Center for Health Statistics.

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986).

TABLE II

Poverty Rates by Age Group, 1969-1984

Year	All	18 and up	6-17	0-5	0-17
1969	12.2%	11.2%	13.5%	15.3%	14.1%
1970	12.6	11.3	14.3	16.6	15.0
1971	12.5	11.2	14.3	16.9	15.1
1972	11.9	10.4	14.4	16.1	14.9
1973	11.1	9.6	13.6	15.7	14.2
1974	11.6	9.8	14.9	16.9	15.5
1975	12.3	10.3	16.2	18.4	16.8
1976	11.8	10.0	15.1	17.7	15.8
1977	11.6	9.7	15.1	18.1	16.0
1978	11.4	9.6	15.0	17.2	15.7
1979	11.6	9.9	15.1	17.9	16.0
1980	13.0	11.1	16.8	20.3	17.9
1981	14.0	11.9	18.4	22.0	19.5
1982	15.0	12.7	20.3	23.3	21.3
1983	15.2	12.9	20.2	24.6	21.7
1984	14.4	12.1	19.7	23.4	21.0

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986).

TABLE III

Birth Rates by Age of Mother
and Race/Ethnicity of Child, 1970-1983

	Under 15	Total 15-19	15-17	18-19	20-24
ALL RACES					
1970	1.2	68.3	38.8	114.7	167.8
1980	1.1	53.0	32.5	82.1	115.1
1983	1.1	51.7	32.0	78.1	108.3
WHITE					
1970	.5	57.4	29.2	101.5	163.4
1980	.6	44.7	25.2	72.1	109.5
1983	.6	43.6	24.8	68.3	102.6
BLACK					
1970	5.2	147.7	101.4	204.9	202.7
1980	4.3	100.0	73.6	138.8	146.3
1983	4.1	95.5	70.1	130.4	137.7
HISPANIC 1980	1.7	82.2	52.2	126.9	156.4
Mexican	1.9	95.6	--	--	176.8
Puerto Rican	2.3	83.0	--	--	133.3
Cuban	.3	25.3	--	--	80.2
Other Hispanic*	.9	52.3	--	--	123.7

*Includes Central and South American, plus others.
Source: National Center for Health Statistics.

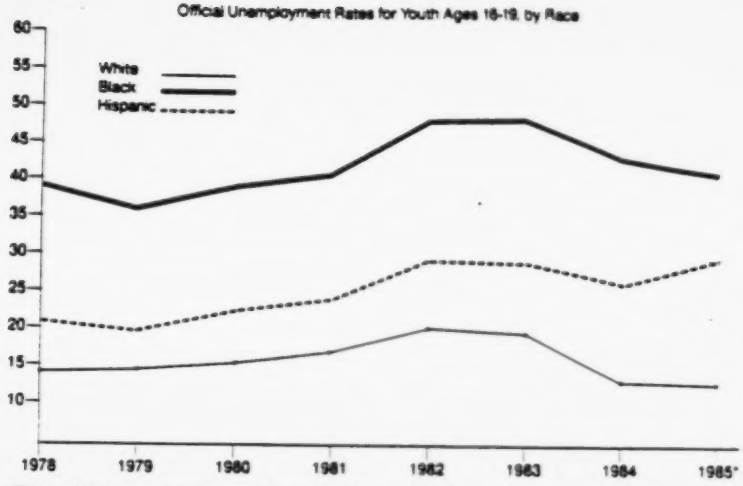
Birth Rates to Unmarried Women by Age of Mother
and Race/Ethnicity of Child, 1970-1983

	Total 15-19	15-17	18-19	20-24
ALL RACES				
1970	22.4	17.1	32.9	38.4
1980	27.6	20.6	39.0	40.9
1983	29.7	22.1	41.0	42.0
WHITE				
1970	10.9	7.5	17.6	22.5
1980	16.2	11.8	23.6	24.4
1983	18.5	13.5	26.1	26.4
BLACK				
1970	96.9	77.9	136.4	131.5
1980	89.2	69.6	120.2	115.1
1983	86.4	67.1	114.0	110.0
HISPANIC 1980	39.7	28.3	60.5	76.5
Mexican	41.8	29.9	63.9	79.5
Puerto Rican	62.4	43.9	96.8	114.1
Cuban	6.6	4.3	10.6	14.0
Other Hispanic	27.0	18.6	41.1	58.6

Source: National Center for Health Statistics.

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986).

TABLE III-A



*White and black rates based on monthly data for December 1985, seasonally adjusted. Hispanic rate is for November 1985, not seasonally adjusted.

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986).

TABLE IV

Full-Time Minimum Wage Workers' Earnings as a Percentage of the Federal Poverty Level (1964-1986)

Year	Hourly Minimum Wage	Annual Earnings For 2,000 Hours' Work (50 Weeks of 40 Hours)	Poverty Level (3 Persons)	Full-Time Minimum Wage Earnings As Percent of Poverty Level for 3
1964	$1.25	$2,500	$2,413	103.6%
1969	1.60	3,200	2,924	109.4
1974	2.00	4,000	3,936	101.6
1979	2.90	5,800	5,784	100.3
1980	3.10	6,200	6,565	94.4
1981	3.35	6,700	7,250	92.4
1982	3.35	6,700	7,693	87.1
1983	3.35	6,700	7,938	84.4
1984	3.35	6,700	8,277	80.9
1985	3.35	6,700	8,589 (est.)	78.0
1986	3.35	6,700	8,934 (est.)	75.0

Source: Bureau of Labor Statistics, United States Census Bureau (Computations by the Children's Defense Fund)

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986)

AFDC

TABLE V

AFDC RECIPIENT CHILDREN PER 100 CHILDREN IN POVERTY, 1972-1984

Year	Number of children on AFDC[a]	Number of children in poverty[b]	Rate per 100 poor children[c]
1972	7,905,000	10,082,000	78.4
1973	7,902,000	9,453,000	83.6
1974	7,822,000	9,967,000	78.5
1975	8,095,000	10,882,000	74.4
1976	8,001,000	10,081,000	79.4
1977	7,773,000	10,028,000	77.5
1978	7,402,000	9,722,000	76.1
1979	7,179,000	9,993,000	71.8
1980	7,419,000	11,114,000	66.8
1981	7,527,000	12,068,000	62.4
1982	6,903,000	13,139,000	52.5
1983	7,098,000	13,449,000	52.8
1984	7,144,000	12,929,000	55.3

[a]The number of dependant children in active payment status on AFDC averaged over the 12 months in the calendar year.

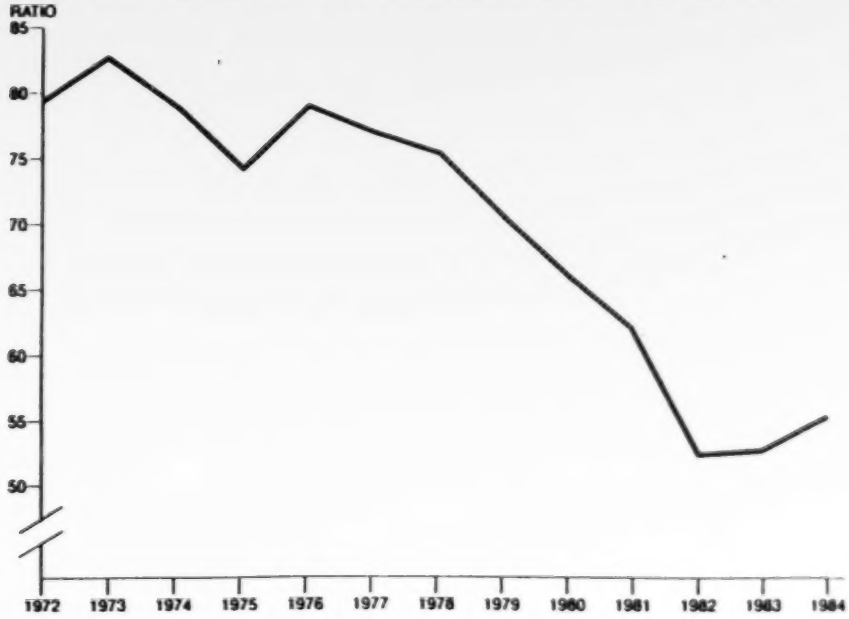
[b]The number of related dependent children living in families with incomes below the poverty level for the calendar year labeled.

[c]The first column divided by the second column multiplied by 100. It is not meant to imply that all or only children in poverty level families are eligible for AFDC benefits. Because the poverty level is based on the living arrangements of children in March of the year after the one for which family income is calculated, many children will appear above and below poverty, when that was not in fact true for the families with which the child lived in the previous calendar year. Many children living in families below poverty are not eligible for AFDC because of state limitations on earnings and assets.

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986).

TABLE VI

Number of Children Receiving AFDC per 100 Children in Poverty, 1972-1984 (fiscal years)



Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986).

Medicaid Recipients Under Age 21
per 100 Children in Poverty
1974-1984 (Fiscal Years)

Year	Number of Children on Medicaid[a]	Number of Children in Poverty[b]	Recipients per 100 Poor Children[c]
1974	9,478,000	9,967,000	95.1
1975	9,602,000	10,882,000	88.2
1976	9,939,000	10,081,000	98.6
1977	9,715,000	10,028,000	96.9
1978	9,500,000	9,722,000	97.7
1979	9,022,000	9,993,000	90.3
1980	9,285,000	11,114,000	83.5
1981	9,587,000	12,068,000	79.4
1982	9,656,000	13,139,000	73.5
1983	9,418,000	13,449,000	70.0
1984	9,680,696	12,929,000	74.9

[a]This represents the number of dependent children under age 21 for whom one or more Medicaid payments were made at some point during the fiscal year. From 1974 through 1976 the counts are for a fiscal year beginning in July and ending in the following June of the year labeled. From 1977 to the present, the year begins in October and ends in the following September of the year labeled.

[b]This represents the number of dependent children under the age of 18 living in families with a calendar year income below the poverty level.

[c]This is the first column divided by the second column, times 100.

This chart does not depict the percent of poor children who receive Medicaid. Only about 50% of poor children are Medicaid recipients. Instead this chart indicates the eroding relationship between childhood poverty and Medicaid eligibility among children.

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986).

TABLE VIII

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986).

TABLE IX

Number of Children Living Below Half of Poverty
by Type of Family, and Age and Race of Child
(income for calendar year 1983, counted March 1984)

Year, Family Type, and Age of Children	Black Children	Percent of Poor Black Children	White Children	Percent of Poor White Children	Total Children	Percent of All Poor Children
1983						
Female-headed Families						
Under 18	1,794,000	56.3	1,392,000	47.4	3,451,000	51.4
Under 6	760,000	62.2	627,000	51.7	1,416,000	56.7
Other Families						
Under 18	362,000	33.7	1,665,000	32.6	2,176,000	32.7
Under 6	120,000	32.3	672,000	31.7	842,000	31.5
All Families						
Under 18	2,155,000	50.6	3,257,000	38.5	5,618,000	42.2
Under 6	880,000	55.2	1,299,000	39.0	2,258,000	43.7
1979						
Female-headed Families						
Under 18	1,173,000	41.1	898,000	35.1	2,111,000	38.3
Under 6	491,000	51.0	344,000	40.5	849,000	46.0
Other Families						
Under 18	248,000	29.4	954,000	29.8	1,287,000	30.1
Under 6	70,000	26.2	334,000	28.5	436,000	29.0
All Families						
Under 18	1,421,000	38.5	1,852,000	32.2	3,398,000	34.9
Under 6	561,000	45.6	678,000	33.6	1,285,000	38.4

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1984).

TABLE X AFDC

AFDC MAXIMUM BENEFIT FOR A FOUR-PERSON FAMILY BY STATE
SELECTED YEARS (a)

State	Maximum benefit (b) July 1970	July 1980	January 1985	Percent Change 1970-85	Percent change 1970-85 in constant 1985 dollars (c)
ALABAMA	$ 81	$148	$147	81.5	-32.2
ALASKA	375	514	800	113.3	-20.4
ARIZONA	167	244	282	68.9	-37.0
ARKANSAS	100	188	191	91.0	-28.7
CALIFORNIA	221	563	660	198.6	+11.5
COLORADO	235	351	420	78.7	-33.3
CONNECTICUT	330	553	636	92.7	-28.1
DELAWARE	187	312	336	79.7	-32.9
DISTRICT OF COLUMBIA	238	349	399	67.6	-37.4
FLORIDA	134	230	284	111.9	-20.9
GEORGIA	133	193	245	84.2	-31.2
HAWAII	263	546	546	107.6	-22.5
IDAHO	242	367	344	42.1	-46.9
ILLINOIS	282	350	368	30.5	-51.3
INDIANA	150	315	316	110.7	-21.4
IOWA	243	419	419	72.4	-35.6
KANSAS	244	390	422	73.0	-35.4
KENTUCKY	187	235	246	31.6	-50.9
LOUISIANA	109	213	234	114.7	-19.9
MAINE	168	352	465	176.8	+ 3.3
MARYLAND	196	326	376	91.8	-28.4
MASSACHUSETTS	314	419	463	47.5	-45.0
MICHIGAN:					
Washtenaw County	531		562		
Wayne County	263	5010	512	94.7	-27.3
MINNESOTA	299	486	611	104.3	-23.7
MISSISSIPPI	70	120	120	71.4	-36.0
MISSOURI	130	290	308	136.9	-11.6
MONTANA	228	331	425	86.4	-30.4
NEBRASKA	200	370	420	110.0	-21.6
NEVADA	143	314	279	95.1	-27.2
NEW HAMPSHIRE	294	392	429	45.9	-45.5
NEW JERSEY	347	414	443	27.7	-52.3
NEW MEXICO	182	267	313	72.0	-35.8
NEW YORK:					
Suffolk County	563		676		
New York City	336	476	566	68.5	-37.1
NORTH CAROLINA	158	210	244	54.4	-42.3
NORTH DAKOTA	261	408	454	73.9	-35.1

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986).

AFDC

TABLE X (Cont'd.)

State	Maximum benefit (b) July 1970	July 1980	January 1985	Percent Change 1970-85	Percent change 1970-85 in constant 1985 dollars (c)
OHIO	$200	$327	$360	80.0	-32.8
OKLAHOMA	185	349	349	88.6	-29.6
OREGON	339	441	468	108.0	-22.1
PENNSYLVANIA	313	395	444	41.9	-47.0
RHODE ISLAND	263	389	567	108.0	-22.4
SOUTH CAROLINA	103	158	229	122.3	-17.0
SOUTH DAKOTA	308	361	371	23.7	-53.8
TENNESSEE	129	148	168	30.2	-51.4
TEXAS	179	140	201	12.3	-58.1
UTAH	212	429	425	100.5	-25.2
VERMONT	304	552	622	104.6	-23.6
VIRGINIA	261	305	379	45.2	-45.8
WASHINGTON	303	536	561	85.1	-30.9
WEST VIRGINIA	138	249	249	80.4	-32.6
WISCONSIN	217	529	636	193.1	+ 9.4
WYOMING	227	340	310	36.6	-49.0

(a) Source: Excerpted from Committee on Ways and Means, U.S. House of Representatives, Children in Poverty, May 22, 1985, Table 6-12, pp. 204-205.

(b) Maximum benefit is the amount paid for a family of a given size with zero countable income. Family members include one adult caretaker.

(c) The last column was computed using the CPI-U Consumer Price Index which was 316.1 for January 1985.

Data presented by CDF in A Children's Defense Budget (Washington, DC, 1986)

TABLE XI

STATES RANKED BY JANUARY 1985
MONTHLY AFDC AND FOOD STAMP BENEFITS
AS A PERCENTAGE OF THE
MONTHLY 1985 FEDERAL POVERTY LEVEL

Rank[a]	State	% of Monthly Poverty Level[b]	Monthly Combined AFDC and Food Stamp Benefits for a Three Person Family[c]	Maximum AFDC Benefit for a Three Person Family
1	Alaska	91.9	847	719
2	Vermont	85.0	627	558
3	California	84.7	625	555
4	Connecticuit	83.8	618	546
5	Rhode Island	82.7	610	479
6	Wisconsin	82.6	609	533
7	Minnesota	81.8	603	524
8	Hawaii	80.9	686	468
9	Washington	78.5	579	476
10	New York	78.2	577	474
11	Michigan	74.6	550	417
12	Oregon	73.5	542	386
13	Massachusetts	69.6	513	396
14	New Jersey	68.6	506	385
15	New Hampshire	67.9	501	378
16	Kansas	67.4	497	373
17	North Dakota	67.3	496	371
18	Maine	67.1	495	370
19	Pennsylvania	66.6	491	364
20	Utah	66.4	490	363
21	Iowa	66.2	488	360
22	Nebraska	65.2	481	350
23	Colorado	64.8	478	346
24	Maryland	63.5	468	313
24	Montana	63.5	468	332
25	South Dakota	63.2	466	329
26	District of Columbia	63.1	465	327
26	Virginia	63.1	465	327
27	Idaho	60.9	449	304
28	Illinois	60.6	447	302
29	Ohio	59.5	439	290
30	Delaware	59.3	437	287
31	Oklahoma	58.7	433	282
32	Wyoming	57.2	422	265
33	Missouri	56.9	420	263
34	New Mexico	56.5	417	258
35	Indiana	56.3	415	256
36	Florida	54.8	404	240
37	Arizona	54.1	399	233
37	Nevada	54.1	399	233
38	North Carolina	53.2	392	223
39	Georgia	51.8	382	208
40	West Virginia	51.5	380	206
41	Kentucky	50.7	374	197
42	Louisiana	50.0	369	190
43	South Carolina	49.8	367	187

Data presented by CDF in A Children's Defense Budget (Wash., DC, 1986).

TABLE XI (cont'd.)

STATES RANKED BY JANUARY 1985
MONTHLY AFDC AND FOOD STAMP BENEFITS
AS A PERCENTAGE OF THE
MONTHLY 1985 FEDERAL POVERTY LEVEL

Rank[a]	State	% of Monthly Poverty Level[b]	Monthly Combined AFDC and Food Stamp Benefits for a Three Person Family[c]	Maximum AFDC Benefit for a Three Person Family
44	Texas	47.9	353	167
45	Arkansas	47.6	351	164
46	Tennessee	45.2	333	138
47	Alabama	43.3	319	118
48	Mississippi	41.1	303	96

[a]States with the same combined AFDC and Food Stamp benefit are given the same rank.

[b]The 1985 monthly federal poverty level for a family of three of $737.50 was used for all states and the District of Columbia (except Alaska and Hawaii). The 1985 monthly federal poverty level for a three person family in Alaska was $921.67 and in Hawaii $848.33.

[c]Food stamp calculations are based on maximum AFDC benefits for a three-person nonworking family as shown and assume the standard deduction of $95. The calculations take into account the fact that food stamps are reduced $.30 for every dollar of AFDC income, and that in the six states where part of the AFDC payment is designated as energy aid this amount is disregarded for food stamp purposes. The six states include Maryland, Michigan, New York, Oregon, Rhode Island, and Washington. Maximum monthly food stamp benefits for a family of three in January 1985 were $208 in all states and the District of Columbia, except Alaska and Hawaii where they were $290 and $319 respectively.

Data presented by CDF in A Children's Defense Budget (Wash., DC, 1986).

TABLE XII

Postneonatal Mortality Rates, by Race, U.S., Selected Years, 1950-1983

Year	All Races	White	Nonwhite		Black-White Ratio
			Total	Black	
1950	8.7	7.4	17.0	16.1	2.18
1955	7.3	5.9	15.6	15.3	2.59
1960	7.3	5.7	16.3	16.5	2.89
1961	6.9	5.5	14.5	14.7	2.67
1962	7.0	5.4	15.3	15.5	2.87
1963	7.0	5.5	15.4	15.8	2.87
1964	6.9	5.4	14.6	14.8	2.74
1965	7.0	5.4	14.9	15.2	2.81
1966	6.5	5.0	14.0	14.3	2.86
1967	5.9	4.7	12.1	12.5	2.66
1968	5.7	4.5	11.5	11.9	2.64
1969	5.3	4.2	10.4	10.8	2.57
1970	4.9	4.0	9.5	9.9	2.48
1971	4.9	4.1	8.9	9.3	2.27
1972	4.9	4.0	8.5	8.9	2.23
1973	4.7	4.0	8.3	8.8	2.20
1974	4.4	3.7	7.7	8.1	2.19
1975	4.5	3.8	7.4	7.9	2.08
1976	4.3	3.6	7.2	7.6	2.11
1977	4.2	3.6	7.0	7.6	2.11
1978	4.3	3.6	7.1	7.6	2.11
1979	4.2	3.5	6.9	7.5	2.14
1980	4.1	3.5	6.6	7.3	2.09
1981	3.9	3.4	6.0	6.6	1.94
1982	3.8	3.3	6.0	6.5	1.97
1983	3.9	3.3	6.0	6.8	2.06

Data presented by CDF in The Health of America's Children (Wash., DC, 1986).

TABLE XIII

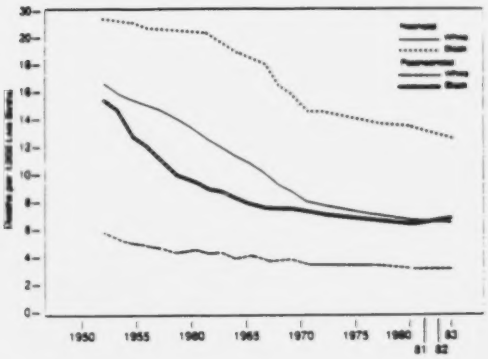
Infant Mortality Rates, by Race, U.S., 1940-1983

Year	All Races	White	Nonwhite		Ratio of Black to White
			Total	Black	
1940	47.0	43.2	73.8	72.9	1.69
1941	45.3	41.2	74.8	74.1	1.80
1942	40.4	37.3	64.6	64.2	1.72
1943	40.4	37.5	62.5	61.5	1.64
1944	39.8	36.9	60.3	59.3	1.61
1945	38.3	35.6	57.0	56.2	1.58
1946	33.8	31.6	49.5	48.8	1.53
1947	32.2	30.1	48.5	47.7	1.58
1948	32.0	29.9	46.5	45.7	1.53
1949	31.3	28.9	47.3	46.8	1.62
1950	29.2	26.8	44.5	43.9	1.64
1951	28.4	25.8	44.8	44.3	1.72
1952	28.4	25.5	47.0	46.9	1.84
1953	27.8	25.0	44.7	44.5	1.78
1954	26.6	23.9	42.9	42.9	1.79
1955	26.4	23.6	42.8	43.1	1.83
1956	26.0	23.2	42.1	42.4	1.83
1957	26.3	23.3	43.7	44.2	1.90
1958	27.1	23.8	45.7	46.3	1.95
1959	26.4	23.2	44.0	44.8	1.93
1960	26.0	22.9	43.2	44.3	1.93
1961	25.3	22.4	40.7	41.8	1.87
1962	25.3	22.3	41.4	42.6	1.91
1963	25.2	22.2	41.5	42.8	1.93
1964	24.8	21.6	41.1	42.3	1.96
1965	24.7	21.5	40.3	41.7	1.94
1966	23.7	20.6	38.8	40.2	1.95
1967	22.4	19.7	35.9	37.5	1.90
1968	21.8	19.2	34.5	36.2	1.89
1969	20.9	18.4	32.9	34.8	1.89
1970	20.0	17.8	30.9	32.6	1.83
1971	19.1	17.1	28.5	30.3	1.77
1972	18.5	16.4	27.7	29.6	1.80
1973	17.7	15.8	26.2	28.1	1.78
1974	16.7	14.8	24.9	26.8	1.81
1975	16.1	14.2	24.2	26.2	1.85
1976	15.2	13.3	23.5	25.5	1.92
1977	14.1	12.3	21.7	23.6	1.92
1978	13.8	12.0	21.1	23.1	1.93
1979	13.1	11.4	19.8	21.8	1.91
1980	12.6	11.0	19.1	21.4	1.95
1981	11.9	10.5	17.8	20.0	1.90
1982	11.5	10.1	17.3	19.6	1.94
1983	11.2	9.7	16.8	19.2	1.98

Source: National Center for Health Statistics.
Data presented by CDF in The Health of America's Children (Wash., DC, 1986).

TABLE XIV

Neonatal and Postneonatal
Mortality, U.S. 1965-1983



Source: National Center for Health Statistics.

Data presented by CDF in The Health of America's Children (Wash., DC, 1986

TABLE XV

REAL OUTLAYS PER CAPITA (1986 DOLLARS) FOR NATIONAL DEFENSE AND FOR PROGRAMS FOR LOW-INCOME FAMILIES AND CHILDREN

Fiscal Year	National Defense	Low-Income Programs
1980	$ 785.03	$507.85
1981	828.70	516.99
1982	910.77	456.63
1983	991.72	466.14
1984	1,029.60	465.66
1985	1,092.68	470.12
1986	1,100.50	464.87
1987	1,112.07	431.07
1988	1,125.67	421.96
1989	1,163.81	411.15
1990	1,200.85	401.10
1991	1,238.69	400.15
Change FY 1980-FY 1991	+$ 453.66 + 57.8%	-$107.70 - 21.2%

Figures in 1986 dollars.

National Defense outlays are totals for function 050. Programs for low-income families and children include all outlays for: education, training, and social service (function 500); health care services (subfunction 551) less Medicare; housing assistance (subfunction 609); food and nutrition assistance (subfunction 605); and other income security (subfunction 609). This grouping includes all programs discussed in this book, plus many small categorical programs (e.g., library grants) and a few larger adult employment programs (e.g., employment services) not covered. The annual average level of the Consumer Price Index (CPI-W) for 1984 through 1991 is as shown in the FY 1987 Budget. U.S. total population estimates are from the U.S. Bureau of the Census.

$14.1 billion in FY 1985 and $1.8 billion in FY 1986 of low income housing loans are removed from function 604. These loans are treated as direct outlays in the FY 1986 budget documents for technical reasons related to the tax changes passed the preceding year. They do not include any new funds for housing nor any new guaranteed loans, and so have been removed from the table above.

Data presented by CDF in A Children's Defense Budget (Wash., DC, 1986)

Senator SARBANES. Thank you very much. Dr. Oski, please proceed. We'll include your prepared statement in the record, if you want to summarize it.

STATEMENT OF FRANK A. OSKI, M.D., CHAIRMAN, DEPARTMENT OF PEDIATRICS, THE JOHNS HOPKINS SCHOOL OF MEDICINE

Dr. OSKI. Thank you for providing me with the opportunity to share with you my concerns, the concerns of pediatricians in general, on the impact of Federal budget cuts during the past 5 years on the health of the Nation's children.

Dr. Sabin has admirably summarized the status of child health in the United States and I will confine my remarks primarily to the area of immunizations and nutrition.

Immunization status is a measurable indicator of nonsusceptibility to specific infectious diseases. The immunization status of a population is a reflection of a community's commitment to preventive public health efforts. A fall in immunization rates may reflect a change in policy or program priorities, or it may indicate a decreased capability of public health agencies to meet their objectives.

Schedules have been developed by the Committee on Infectious Disease of the American Academy of Pediatrics which serve to define optimum immunization status for children against the now preventable infectious diseases—diphtheria, tetanus, pertussis (whooping cough), measles, mumps, rubella (German measles), and polio.

As you mentioned before, between 1977 and 1979, the Federal Government initiated and the States and local governments participated in childhood immunization programs aimed at achieving a 90 percent immunization rate for our nation's children. By the fall of 1979, this goal was achieved for all school-aged children. The highest rates were observed among the 5- to 6-year-old population and the lowest immunization rates were seen among the children 1 to 4 years of age.

Even at the time of our greatest success, the proportion of preschool children who were adequately immunized against childhood disease varied considerably as a function of race and income. The percentage of white preschoolers immunized was 10 to 21 percent higher than for nonwhites.

The immunization status of our children has deteriorated since that time, the high mark years of 1978 and 1979. Data adapted from the Centers for Disease Control demonstrate that 15,635,000 doses of diphtheria-pertussis-tetanus vaccine were distributed in 1984 as contrasted with well over 21 million in 1980. That's a decline of 28 percent. For oral polio vaccine, the number of administered doses has declined by approximately 13 percent, while measles vaccine has declined by about 28 percent over time.

Just as a rising tide does not lift all boats equally, the same can be said for the falling tide, with more of the poor and the black failing to achieve optimum immunization status.

Of children living in inner cities, at least 45 percent are not fully immunized against measles, 37 percent are not fully immunized

against mumps, 45 percent not fully immunized against polio, and 40 percent not fully immunized against diphtheria.

In the State of Maryland, this is an example of what has happened. In the State of Maryland, in 1978, 82 percent of children at 2 years of age were appropriately immunized, while in 1984, the figure has fallen to 68.5 percent, a drop of over 20 percent in that space of time.

We are as a country on the verge of potential epidemics, epidemics of diseases that we have the means to prevent, diseases we once had prevented. An epidemic of pertussis did, in fact, occur in Oklahoma in 1983 and represented the largest number of reported cases in that State since 1956.

More and more instances of pertussis and whooping cough are being observed across the country. Even more will be observed as the cost of the DPT vaccine rises and becomes less accessible to our Nation's poor.

Provisional data for 1984 indicate an increase of 69 percent over 1983 in reported cases of measles, for example.

This is occurring despite the evidence which clearly demonstrated that for every dollar spent on the Childhood Immunization Program, the Government saved $10 in medical costs. In 1983, for the combined measles-mumps-rubella vaccination program alone, $14.4 were saved for every dollar spent on immunization. An estimate of the average lifetime cost of each case of congenital rubella—that's German measles—is $200,000. For 1 million 2-years-olds, rubella vaccination would save $9.8 million in net medical costs and an additional $7.4 million in productivity.

According to a study by the Centers for Disease Control, $180 million spent over several years on a measles vaccination program has saved $1.3 billion in medical and long-term care by reducing hearing impairment, retardation, and other health-related problems, an amazing, amazing investment.

Is there any better way to spend the Nation's income? Is there any better investment in the Nation's future?

I am personally unaware of the extent of the reduction in Federal spending on nutrition programs, but there is evidence that demonstrates that Federal programs such as the special Supplemental Food Program for Women, Infants, and Children, known as WIC, have proven to be effective.

For example, a study for Missouri revealed that WIC participation by pregnant women was found to be associated with the reduction of Medicaid, newborn costs of about $100 per participant. For every $1 spent on WIC, about 83 cents in Medicaid costs within 30 days of birth were apparently saved, according to the results of that study.

Reductions in the incidence of low-birthweight infants and neonatal intensive care unit admission rates among the WIC infants were two possible reasons for the savings observed.

In a similar study, from Massachusetts, it was found that for every $1 spent on WIC prenatal costs, more than $3 was saved in medical costs after birth.

The WIC Program has also been demonstrated to be effective in virtually eliminating iron-deficiency anemia among infants and children. Iron deficiency is the most common single nutrient defi-

ciency in the world. Studies in the United States have shown that the prevalence of overt iron deficiency anemia is 5 to 15 percent in American infants and children between 9 and 36 months of age. Iron deficiency without anemia affects at least an additional 5 to 15 percent.

So perhaps as many as one-third of our Nation's poor are iron deficient.

Iron deficiency has found to result in alterations in infant behavior, as manifested by unhappiness and decreased attention span. Iron deficiency in the older child and adolescent has been associated with poor school performance and impaired learning.

The WIC Program provided iron-fortified milk formulas and cereals during the first year of life. The use of such diets is known to reduce the incidence of iron deficiency anemia.

For example, a study for New Haven, CT, has clearly demonstrated the impact of the WIC Program on iron deficiency. In 1971, before implementation of the WIC Program in New Haven, the prevalence of moderate or severe iron deficiency anemia among infants 9 to 36 months of age was 23 percent. In 1984, the degree of anemia present was down to only 1 percent.

This study demonstrates near disappearance of nutritional anemia in an inner-city population of poor infants and children in the span of 13 years. This cannot be explained by an improvement in the economic status of the community. In fact, according to U.S. census figures, between 1970 and 1980, the proportion of residents of the Hill area of New Haven, the site of this survey, whose annual income was less than the federally established poverty level increased from 24.5 to 33.7 percent. The authors of the study conclude with the following:

> In an era of increasing curtailment of social programs for the poor and skepticism about their effectiveness, efforts should be made to ensure the continuation of nutrition programs, such as the WIC program, for eligible American infants. The provision of iron-fortified foods to high-risk infant populations for at least 12 months should be given a high national priority.

To put this problem of WIC in a local perspective, as of May 1986, there were 49,897 infants and children in the city of Baltimore that were eligible for WIC. Of this number, only 13,000, or 26 percent, were enrolled. This poor enrollment was a consequence of the construction, by the Federal Government, of bureaucratic barriers that discourage participation.

Now that one in every four of our Nation's children lives below the poverty level, we must redouble our efforts to protect and preserve their health. Immunization programs and nutrition programs, programs with proven effectiveness, programs with a sound investment in our tax dollar, must not be curtailed. Children, as a result of cutbacks in Federal programs, have already become our country's first victims of the nuclear war.

Thank you.

Senator SARBANES. Thank you very much, Dr. Oski. Dr. Paige, please proceed.

We'll take all the statements and then we'll have questions for the panel as a group.

STATEMENT OF DAVID M. PAIGE, M.D., PROFESSOR OF MATERNAL AND CHILD HEALTH, THE JOHNS HOPKINS SCHOOL OF HYGIENE AND PUBLIC HEALTH

Dr. PAIGE. Thank you very much, Senator Sarbanes, for the opportunity of addressing you this morning. I will try to summarize the various sections in the interest of time. I will address myself to a select number of maternal and child health issues.

As chairman of the Governor's Task Force on Food and Nutrition in Maryland, from 1983 through its conclusion in December 1985, I will also try to bring a State, as well as a National, focus to my testimony.

As we've heard indicated, one out of every five children in the United States now lives in a poverty-stricken family and for black children, the figure is one out of two. The study conducted by the House Select Committee on Children, Youth, and Families further revealed that the number of poor children increased by 2 million between 1980 through 1982, and corroborating studies by the Congressional Budget Office, as well as the U.S. Conference of Mayors, indicate that the picture is indeed bleak for the 50 percent of black children and 20 percent of all children in the United States who are currently living in poverty.

We already know that cuts in the AFDC Program since 1981 have resulted in a half million people, most of them living in single-parent families, being dropped from the rolls. Studies conducted in a sample of five cities show that one-half of the families cut from the AFDC rolls since 1981 have run out of food after losing their benefits.

Next, I will address the Maryland patterns with respect to these issues.

According to the 1980 census information, persons living below poverty in July 1980 numbered over 404,000, or approximately 10 percent of the Maryland population. The poverty rate tends to run highest, as you undoubtedly know, in Baltimore City, 23 percent. But also, the western counties, Garrett County, as well as the Eastern Shore, Somerset, at levels of 16 and 17 percent.

Based on the Census Bureau reports of August 1983, the number of Americans living in poverty has increased by 5.1 million since 1980, and the Maryland State Planning Department estimates that there are 65,000 to 75,000 new poor right here in Maryland, an increase of approximately 17 percent over the 3 years.

In Maryland, approximately 1 in 10 children have been receiving AFDC since 1985 and presently, 70 percent of all AFDC recipients are children living in poverty.

The Federal programs which have attempted to address this have not been successful, according to the September 1983 Census Bureau report of households below the poverty line; 50.3 received no Federal assistance at all, 50.3 percent; 28 percent received no food stamps; 46 percent received neither free nor reduced price lunches; 48 percent lived in private, unsubsidized housing. And further, a 1983 study released by the Congressional Budget Office showed the following effects of the spending cuts which were realized. Low-income households have lost from 3 to 6 times more in benefits than other households. While human resources spending

in 1985 will account for 46.3 percent of Federal expenditures, only 10 percent of those total Federal expenditures will go to low-income programs; 10 percent of Federal spending to benefit the poor will absorb 36 percent of total Federal aid cuts.

I'd like to turn my attention to the health indicators of risk and to more precisely identify specific health problems among the poor. A series of indicators may be employed to define the problem.

As is heartening to indicate, both you, Senator, as well as Dr. Sabin, Dr. Oski, and Ms. Rosenbaum, have all indicated the same phenomenon, even though each of us sitting in our own offices have developed the testimony independently, we come back to the same set of circumstances and problems which exist in our country and in our State.

Low birthweight, as an exemple, may be considered a useful indicator of the health of the population and by extension, a limited index to the nutritional status of a population. A proportion of low birthweight deliveries may result from conditions associated with poverty, poor weight gain on the part of the mother, inadequate food intake, absent prenatal care operating independently or synergistically to result in a low birthweight infant.

It's important, parenthetically, to remind ourselves that there are other causes of low birthweight infants, but very important causes are the ones that we're addressing this morning.

While the percentage of low birthweight infants born to white women in the United States is 6 percent and mirrored by percentages in 1982, as well as 1983, of 6 percent in Baltimore County and 5.5 percent in Montgomery County, our richer counties in the State, sharp differences exist in other parts of the State.

Baltimore City, with 29 percent of the population below 125 percent of poverty level, demonstrates low birthweight rates almost twice as high—11 percent in 1982 and 1983. Similar disparities are noted over the past number of years in Baltimore City. This is not a 1-year fluctuation.

A high percentage of low birthweights are also reported in Dorchester, Somerset, and Wicomico Counties, counties with 20.9, 23.9, and 17.7 percent of the population, respectively below 125 percent of poverty level. Further, blacks have the highest rates of low birthweight infants. In 1983, nationally, 1 in 8 black infants were born at low birthweights compared to 1 in 17 white infants, a very striking difference.

Low birthweight babies are 20 times more likely to die in the first year of life than those of normal birthweight. The percentage of babies who are born at low birthweight are increasing, albeit, slightly, they're increasing, and at the current rate of progress, the Children's Defense Fund estimates only nine States will meet the Surgeon General's 1990 objective for reducing the incidence of low birthweight in this country.

I'd like to address infant mortality.

This index is often employed as an indicator of health status of communities. In 1983, the gap between white and black infant rates was the greatest since 1940 in the United States. Black infants were almost twice as likely as white infants to die in the first year of life.

The Maryland Department of Health and Mental Hygiene reported in 1985, clearly a neutral body, that although both whites and nonwhites have shown steady improvement over time in infant mortality, since 1981, rates among nonwhites have not shown the downward trend seen among white infants. They further note that while nonwhite neonatal mortality rates have declined slightly since 1981, post-neonatal rates rose during that period, a further indicator of the social and environmental risks which exist beyond the neonatal period.

The ratio of nonwhite to white deaths for Maryland in 1984 indicates the infant mortality ratio, nonwhite to white, black to white, basically, was 1.94, neonatal mortality 2.0, twice as many, and post-neonatal mortality 1.82, compared to the 1980 ratios of 1.73, 1.76, and 1.66.

We have an increasing problem over the past several years.

Five-year averages indicate a more than two-fold difference in the reported mortality rate between the lowest and highest counties in the State, which, as noted above, frequently parallels the level of poverty within the county.

I will skip over perinatal morality and I'll just briefly indicate that with respect to adolescent pregnancy, which my good colleague from the University of Maryland, Dr. Heald, I'm sure will speak to at considerable length, indicates that in 1983 only 57 percent of white and 47 percent of nonwhite teen mothers received early prenatal care. Babies born to teen and unmarried mothers are at the greatest risk of poverty, late or no prenatal care, low birthweight, and infant death and poor health outcomes than those born to married and adult women. Yet, MCH block grants and family planning services are all being cut.

I'd like to just briefly mention some other indicators, Senator, with respect to some of the nutrition utilization patterns that exist here in the State of Maryland.

Emergency food services, as an example, are a measure of need, and this has been proliferating over the past several years. We've taken testimony throughout this State and have heard from all of the citizens, black and white, urban and rural, long-term poor and short-term poor, dispossessed workers, people who have lost their jobs because of technological transition, as well as the more common stereotypical individuals within the poverty situation.

Information provided by the Department of Social Services here in Baltimore City indicates that the emergency service unit reported in fiscal year 1984, 26,760 households in the city were being provided with emergency food services, and the number has grown dramatically over this decade of the 1980's.

The report notes that this increase has been largely due to the tightening of Federal food stamp regulations, high unemployment, particularly among the young, single adults, and the inadequate public assistance grant to meet additional monthly food needs, thus causing food stamps to become a supplemental food source.

Other indicators within the city—Catholic Charities' Our Daily Bread reports serving over 450 lunches daily. Paul's Place, a small church-sponsored group, 35 to 40 people per day in 1982.

In addition, an extensive food bank program is operating in Baltimore and throughout Maryland. Over 450,000 pounds of food per

month is distributed through a network of food pantries, soup kitchens, halfway houses, and other nonprofit organizations which distribute food to the needy within our State alone. And this is a national network which is supported by Second Harvest throughout the country.

As indicated, the number of soup kitchens has proliferated over the past years. And I won't go into the specifics, but indicate that a University of Maryland study in 1983 debunked the issue as to who these people were. While 88 percent were unemployed at the time of interview, 80 percent were receiving income from government programs, which include general public assistance grants, SSI, and food stamps. And 74 percent had a regular address, 26 percent lived alone.

I'd also like to mention some issues with respect to some of the deficiencies in the current Federal food program.

Tightened eligibility standards since 1981 have resulted in a decline in participation in food stamp utilization. In Maryland, following the 1981 Omnibus Budget Reconciliation Act, the participation rate has dropped from 146,000 households and 351,000 individuals to 113,000 households and 280,000 individuals.

We estimate that only 62 percent of the eligible population is being served here in the State and this is reflected throughout the country.

More than 200,000 eligible Marylanders are not participating currently in this program, which is a loss in human terms as well as a loss to the State of $40 million in terms of entitlement funds, and the multiplier effect that that would have.

It's also noted, Senator, that the food stamp benefits are tied to the USDA Thrifty Food Plan, which is a bit of sleight of hand. Recent consumption patterns show that the food stamp households spend about 24 percent more on food than the TFP suggests. And this is not because of any lack of good shopping, but because of the fact that it's impossible to purchase on the basis of Thrifty Food Plan the proper diet.

USDA's April 1984 figures demonstrate that food costs under the Low Cost Food Plan of the USDA more accurately reflects the family's needs, and that the TFP, the Thrifty Food Plan, is inappropriate.

Further, the program's complexity is designed to reduce error. It has become draconian in its requirements with respect to what's necessary to eliminate the error rate, which is a way, I believe, to further reduce the level of participation.

Stricter penalties are being applied to the States. This has put a chilling effect on the outreach activities that are occurring here in Maryland and throughout the country.

Other important initiatives would be necessary to assist in increasing participation, and just summarizing that last chapter of my prepared statement: Simplification of program regulations, increasing the asset limits from $1,500 to $2,350 for most households, returning the household definition to the 1979 definition and status, increasing the earned income credit, restoring Federal funding for food stamp outreach, which is critical.

These are all pre-1981 factors which existed in the food stamp legislation which have been slowly removed.

I'd like to touch briefly on the USDA supplemental feeding program, the WIC program, which Dr. Oski has already addressed, but perhaps indicate the following.

In Maryland, as was indicated, there is a cap on this program currently and it is a program that works. Throughout the country, we have approximately one-third of the eligibles that are participating. The underparticipation results from this continued attempt to cap the program. This occurs despite the fact that the Institute of Medicine 1984 report, which you had referenced in your opening comments, Senator, urges that the nutrition supplementation programs, such as WIC, be a part of the comprehensive strategies to reduce the incidence of low birthweight among high-risk women.

I won't recite all of the research noted in my prepared statement, but to reiterate the fact that the GAO report, which was commissioned by Senator Helms in an attempt to effectively discredit the impact of the WIC Program, indicated quite clearly that it had a very positive effect in summarizing the national research on the improvement of the birthweight and therefore, the reduction of the low birthweight population.

It notes that there is a large and significant reduction in preterm, less than 37 weeks, deliveries to high-risk white and black women with less than 12 years of education. The higher the risk the greater the poverty, the less the education. These are the disadvantaged among us who are the victims of these cuts and the outcome of their pregnancies will be improved by nutrition intervention.

The estimated reduction is 23 percent, 8 per 1,000 deliveries among white women and 15 percent, 20 per 1,000 deliveries among black women.

The other reports continue to reinforce that.

If we apply, Senator, the 20 percent reduction to the low birthweight rate of 115 per 1,000—I'll try to stay out of the numbers—we would drop from 115 to 92 low birthweight infants per 1,000 live births. This will be a reduction of 23 low birthweights per every 1,000 live births, an estimated decrease of 10 percent in infant mortality. This translates into a decline in infant deaths on this one population alone of 254 infant deaths in this high-risk group of women.

As noted earlier, the savings—if one doesn't want to focus on the human savings that have been achieved as a result of such an intervention, the Institute of Medicine report indicates that intensive care hospital costs, conservatively, and I'm using the most conservative estimate, $13,000 per low birthweight infant. Preventing 2,544 low birthweights in this one segment of the population alone would result in a savings of more than $34 million.

In addition, there will be a savings in terms of the rehospitalization reported by the Institute of Medicine, resulting in almost $3 million and in the long-term followup care, in multiple millions of dollars.

I would like to finally address the reduced price school meal program.

There is a need to increase, very much so, the participation in the free and reduced price school meal programs on the national level. It's an opportunity to simultaneously impact the nutritional

and educational well-being of the disadvantaged children on an ongoing basis.

In Maryland, when the charges for reduced price meals increased from 10 to 30 cents after 1981, the participation rate, the numbers of meals served, dropped 75 percent for breakfast and 41.6 percent for lunch, respectively. The Maryland experience mirrors the national patterns which have existed.

Through State initiatives, in our State, in fiscal year 1987, Maryland, as a result of the legislative initiatives, to compensate for the federally mandated increase in reduced price meals, will make up this difference. And we feel that we will return to the pre-1981 levels here in Maryland. But, unfortunately, our forward-looking action in this State is not the case on a national level, and this situation has to be reversed.

I'd like to finally indicate that while it's possible to dispute the impact of Federal cutbacks, it's apparent that many key indicators of maternal and child health have been plateauing or deteriorating over the past several years. The number of teenage pregnancies is high and the level of prenatal health care is low. Low birthweight continues to push our infant mortality rates to a very high level when compared to other industrialized nations.

Coupled with this lack of forward progress is a real reduction in the number of low-income individuals participating in the Food Stamp Program, the USDA Supplemental Feeding Program, the national free and reduced price school feeding programs, while there is a concomitant rise in the utilization rates of local food pantries, food banks, soup kitchens, and private sector aid.

It would appear that there's a pattern which indicates increased risk as a result of decreased availability of critical Federal support services which are not being adequately made up for by local and private resources.

A decrease in Federal support for maternal and child health programs and the shifts in organizing and paying for health care services may lead to an even greater deterioration of the health of our most vulnerable segments within the population.

Public policy and the health of mothers and children have been inexorably linked throughout this century. There is clear evidence that Federal programs which facilitated access to health care and an improvement in the nutritional status of high-risk groups has resulted in a decrease in low birthweight infants, a decrease in infant mortality which includes neonatal and post-neonatal mortality, births to teenagers, improved growth and development, and reduced morbidity.

Reductions in children's programs as reflected by cuts in the maternal and child health block grant, family planning services, child welfare and child care services, and employment training opportunities, will result in an increase in health, nutritional, and social problems of the poor and their children.

I leave my recommendations in my prepared statement for you to review at another point in time.

I thank you very much for the opportunity to present this to you, Senator.

[The prepared statement of Dr. Paige follows:]

PREPARED STATEMENT OF DAVID M. PAIGE, M.D.

Mr. Chairman, member of the Committee, I am Dr. David M. Paige, Professor of Maternal and Child Health at the Johns Hopkins University School of Hygiene and Public Health with a Joint Appointment in Pediatrics at the Johns Hopkins School of Medicine, and attending Pediatrician at the Johns Hopkins Hosptial. I appreciate the opportunity of appearing before the Committee this morning.

I will address myself to a select number of maternal and child health issues. As Chairman of the Governor's Task Force on Food & Nutrition from 1983 through the conclusion of its work in December 1985, I will attempt to bring a State as well as a National perspective to my testimony.

Economic Perspective

National Patterns

The fact as reported last year in the American Journal of Public Health is that one out of every five children in the United States now lives in a poverty-stricken family. For black children, the figure is one out of two, or 50 per cent. The study, conducted by the House Select Committee on Children, Youth and Families, further revealed that the number of poor children increased by 2 million between 1980 and 1982. Corroborating studies by the Congressional Budget Office, the U.S. Conference of Mayors, and others combine to paint a bleak picture for the 50 per cent of black children and 20 per cent of all children now living in poverty. Over the last five years, the disposable income of the poorest one-fifth of American families has dropped more than 9 per cent. Families headed by non-elderly black women suffered the largest decline - 10 per cent.

We already know that the cuts in Aid to Families with Dependent Children (AFDC) embodied in the Omnibus Budget Reconciliation Act of 1981 resulted in half a million people, most of them living in single parent families, being dropped from the rolls. A General Accounting Office study conducted in a sample of five cities, showed that one half of the families cut from the AFDC rolls since 1981 ran out of food after losing their benefits. Between 11 and 28 per cent of the families with working members who lost their benefits also lost access to medical and dental care either because of the expense or because they no longer had any health insurance.

Maryland Patterns

According to 1980 Census Information, persons living below poverty level in July 1980, numbered 404,532, 9.8% of the population. The poverty rate tends to run highest in Baltimore City - 22.9%, followed by Garrett County, 15.8%, (associated with a high rate of plant closings and job loss), and Somerset, 15.7% (one of the ten poorest counties in the nation, termed a "Starvation County" by USDA; its winter unemployment rate exceeds the average unemployment rate nationally during the Depression. Based on the Census Bureau's report of August, 1983, the number of Americans living in poverty has increased by 5.1 million since 1980. The Maryland State Planning Department estimates that 65,000 -75,000 "new poor" have fallen into poverty, an increase of 16.1% - 18.5% in three years. In Maryland approximately 1 in 10 children received AFDC during 1982. Presently, of the 196,000 people who receive assistance, 70% are children, and the average family consists of a mother and two children. The average length of time on AFDC, according to a recent study, is just over 2 years, with the vast majority of families receiving assistance for the first time. For most of these families, AFDC is the only means of support.

Federal Programs and the Poor

According to the September 1983 Census Bureau report of households below the poverty line in 1982, 50.3% received no Federal assistance, 27.7% received no food stamps, 46.4% received neither free nor reduced-price lunches, 47.9% lived in private, unsubsidized housing. Further, a 1983 study released by the Congressional Budget Office showed the following effects of spending cut: 1) The low-income households have lost from three to six times more in benefits than other households, 2) while human resources spending in 1985 will account for 46.3% of Federal expenditures, only 10% of those total Federal expenditures will go to low-income programs. 3) the 10% of Federal spending to benefit the poor will absorb 36% of total Federal aid cuts, 4) in 1983, households with incomes under $10,000 lost average benefits of $240; households with incomes over $40,000 lost average benefits only one-sixth as large - $40, and 5) by 1985, households with incomes under $10,000 will lose more than twice as much on the average than households with greater incomes.

Health Indicators of Risk

To more precisely identify specific health problems among the poor, a series of indicators may be employed to define the problem.

Low Birth Weight

As an example, low birth weight may be considered a useful indicator of health and by extension a limited index to the

nutritional status of a population. A proportion of low birth weight deliveries may result from conditions associated with poverty, poor weight gain on the part of the mother, inadequate food intake, absent prenatal care operating independently or synergistically to result in a low birth weight infant. Yet it must also be realized that it may occur for a variety of reasons and may be frequently associated with medical conditions which bear no relationship to a harsh social environment.

While the percentage of low birth weight infants born to white women in the U.S. is 6% and mirrored by percentages in 1982 of 6.1% in Baltimore County and 5.5% in Montgomery County, sharp differences exist in other parts of the state. Baltimore City with 28.9% of the population below 125% of poverty level, demonstrated low birth weight rates almost twice as high, of 11.0% in 1982. Similar disparities are noted over the past five years. A high percentage of low birth weights are also reported in Dorchester, Somerset, and Wicomico Counties. Counties with 20.9, 23.9, and 17.7% of the population respectively below 125% of the poverty levels. Further, blacks have the highest rate of low birth weight infants. In 1983, nationally one in eight black infants was born at low birth weight compared to one in seventeen white infants.

Low birth weight babies are twenty times more likely to die in the first year of life than those of normal birth weight. Nationally between 1982 and 1983, the percentage of babies born at low birth weight increased sightly. At the current rates of progress, The Children's Defense Fund estimates, only nine states will meet the Surgeon General's 1990 objective for reducing the incidence of low birth weight births.

Infant Mortality

This index is often employed as an indicator of the health status of communities. Nationally in 1983, the gap between white and black infant mortality rates was the greatest since 1940. Black infants were almost twice as likely as white infants to die in the first year of life. The Maryland Department of Health and Mental Hygiene reported in 1985 that although both whites and nonwhites have shown steady improvement over time in infant mortality, since 1981, rates among nonwhites have not shown the downward trend seen among white infants. They further noted that while nonwhite neonatal mortality rates have declined slightly since 1981, post-neonatal rates rose during that period. They cautioned, given the small number of years involved, it is not clear whether this represents a stable trend.

The ratio of non-white to white death rate for Maryland in 1984 indicates the infant mortality ratio was 1.94, neonatal mortality 2.0 and post-neonatal mortality 1.82, compared to the 1980 ratios of 1.73, 1.76, and 1.66 respectively. Further, the computation of five year average infant mortality rates between the subdivisions within the State demonstrate sharp differences as well. Five year averages

indicates a more than two-fold difference in the reported mortality between lowest and highest counties in the state, which as noted above frequently parallels the level of poverty within the county. Nationally if black and white infant mortality rates were equal, about 5,500 black babies would not have died in 1983.

Perinatal Mortality

Perinatal mortality is another indicator of health status which may be influenced by economics, health and nutritional status. Again higher levels are reported in Baltimore City compared to Montgomery and Baltimore County. The rates per 1000 live births and fetal dealth are 27.1 compared to 16.7 and 16.8 respectively.

Adolescent Pregnancy

Additional indicators of potential risk are the proportion of mothers less than 18 years of age. Teen mothers are at greater risk than adult women of receiving late or no prenatal care, and of having low birth weight babies who suffer higher mortality rates. In 1983, only 57 percent of white and 47 percent of nonwhite teen mothers received early prenatal care. Babies born to teen and unmarried mothers are at greater risk of poverty, late or no prenatal care, low birth weight, and infant death and poor health outcomes than those born to married and adult women. Yet, MCH Block grants and family planning services are being cut. Mothers less than 18 years of age, 11.5%, are found in Baltimore City compared to 2.1 and 2.6 in Montgomery and Baltimore Counties. Recent headlines highlight the fact that approximately 35% of both black and white out of wedlock babies were born to unwed mothers. The percentage of low birth weight infants born in Maryland in 1983 to nonwhite and white mother 15-19 years of age was 15.3% to 11.2 respectively. Not, only has this percentage increased over the past few years now approximating 1970 figures. The overall 1983 figure is almost one-third to 50% higher than that found in nonteenage mother.

Other Indicators

Other indices as to the level of need in a community can be utilized to augment the above information.

Emergency Food Services

A direct measure of need is the proliferation of emergency food centers responding to a reported increase in demand. Information provided by the Department of Social Services, Emergency Services Unit reports in FY 84, 26,760 households in the City were being provided with emergency food services. The number served has grown dramatically over the past decade.

The report notes that this increase has been largely due to the tightening of federal food stamp regulations, high unemployment particularly among young, single adults and the inadequate Public Assistance grant to meet additional monthly food needs thus causing food stamps to become a supplemental food source. Nearly half of the households served are single adults or childless couples. The monetary and foods resources provided to this group have been insufficient to meet their needs.

Complementing the work of the public agencies is the private sector. An example is the Franciscan Center, a private non-profit social services agency, located in mid-town Baltimore. Their mission is to meet the emergency needs of those people who have no other resource to which they can turn. total clients served in their hot lunch program operating an average of 19 days per month is over 6,000.

The above example is replicated by a number of private programs throughout the city. As one example, the emerging food programs of Associated Catholic Charities' Our Daily Bread, reports serving over 450 lunches daily and is noted to be only one of the many programs serving capacity crowds. Paul's Place, a small church sponsored emergency lunch program, reports serving 250 hungry people per day. This is an increase from 35 to 40 people per day over 1982. Further, as noted for all centers, there has been an increase in the number of women, children and intact families which seek emergency food relief on a daily basis. The documented activities in the city are only a microcosm of what has been reported to the Governor's Task Force, as occurring throughout the state.

In addition, an extensive Food Bank program is operating in Baltimore and throughout Maryland. Over 450,00 pounds of food per month is distributed through a network of food pantries, soup kitchens, halfway houses, and other non-profit organizations which distribute food to the needy within the state. A steady supply of food is received from the parent organization, Second Harvest, and through donated surplus foods from large food outlets and a variety of other vendors. The number of people being served by the Food Bank has escalated over the past several years. An infrastructure of outlets throughout the state, a sophisticated transportation system and volunteers keep the program operating.

As indicated, the number of soup kitchens has proliferated over the past several years. A study conducted by the University of Maryland in May and June 1983 was undertaken to define those using Emergency Food Kitchens. The report indicates that the users were "rooted" in poverty . While 88% were unemployed at the time of the interview, 80% were receiving income from government programs which included G.P.A. (19%), SSI (17%) and food stamps (25%). Seventy-four percent had a regular address and 26% lived alone. Ten percent were on medication for emotional problems while 28% reported being on medication for physical illness.

Federal Food Program

Despite the increase in participation levels among the poor, there is an erosion of federal support service.

Food Stamp Program:

Tightened eligibility standards since 1981 has resulted in a decline in participation. In Maryland, following the Omnibus Budget Reconcilation Act of 1981, the participation rate dropped from 146,538 households and 351,220 individuals to 113,187 households and 280,608 individuals in mid 1985.

The Maryland program reaches only 62% of the eligible population. It is estimated that more than 200,000 eligible Marylanders are not participating, resulting in a loss of up to $40 million per year in Federal reimbursement to the State.

It also is important to note that food stamps benefits are tied to the USDA Thifty Food Plan (TFP). Recent consumption patterns show that food stamp households spend about 24% more on food than the TFP suggests is necessary. USDA's April 1984 figures also demonstrate that food costs under the Low Cost Food Plan more accurately reflect the family's needs. It is necessary to replace the TFP with the Low Cost Food Plan as the basis for determining benefit levels.

Further, much of the program's complexity is designed to reduce error. A growing source of attention over the last years and an increasing drain on limited resources. The Department of Human Resources success in lowering the food stamp error rate from 17% to 6.7% in recent years is commendable. Yet, Federal emphasis on the elimination of fraud and error and the threat of financial sanctions have led to an overly complex program and has increased the tension between worker and client. Stricter penalties will worsen these problems as the cost-benefit ratio of extreme error-reduction practices rises.

Other important initiative which would assist in increasing participation include: a) Simplification of program regulations, particularly by seeking a state option for monthly reporting/retrospective budgeting, which has proven to be costly and error-prone in states where it has been implemented. b) Increase the assets limit from $1,500 to $2,350 for most household (a help to the recently unemployed), and from $3,000 to $3,500 for households with at least one person over age sixty. c) Return the household definition to its 1979 status, to allow siblings, parents and children over 18 living with their parents to be considered separate food stamp households. Currently extended families sharing living quarters to save on shelter expenses are being penalized for their efforts. d) Increase the earned income deduction from 18% to 20% to help the working poor. e) restore Federal funding for Food Stamp Outreach

activities. f) Achieve greater conformity in eligibility for low-income programs, such as Food Stamps, and Public Assistance, would permit State development of a unified application form and drastically reduce administrative costs.

The USDA Supplemental Feeding Program (WIC)

The WIC Program which provides nutritional supplements to pregnant and lactating women, infant and children to 5 years of age is serving approximately one third of the eligible population. In Maryland 45,000 out of an estimated 110,000 eligible individual receive benefits.

This underparticipation is a result of the federal cap on spending. This occurs despite the fact that the Institute of Medicine Report on Low Birth Weight urges that nutrition supplementation programs such as WIC be a part of comprehensive strategies to reduce the incidence of low birth weight among high-risk women.

Nutrition research supports the view that nutritional assessment and services should be major components of high-quality prenatal care. Evaluation studies show that prenatal participation in the WIC program is associated with improved pregnancy outcomes. Of particular relevance to this report is the decrease in the incidence of low birth weight associated with WIC participation. Recently the U.S. General Accounting Office (GAO) critically reviewed the published literature on the subject and noted that the evidence of program benefit is strongest for increases in mean birthweight and decreases in the percentage of low birthweight infants. Further, receiving WIC supplementation during the interpregnancy period can help to increase birthweight in subsequent pregnancies.

The National evaluation of the WIC Program released in January 1986 reinforces the above conclusion. The study indicates that the program is working well, reaching it's intended population of high risk women, infants, and children and is cost effective. It notes that there is a large and significant reduction in preterm (<37 weeks) deliveries to high risk white and black women with less than 12 years of education. The estimated reduction is 23% (8/1000 deliveries) among white women and 15% (20/1000 deliveries) among black women.

The Report to the U.S. Senate Committee on Agriculture, Nutrition, and Forestry by the U.S. General Accounting Office in January 1984 noted that the decrease in the proportion of low birth weight (LBW) infants born to women who participated in the WIC Program was most evident in high risk poorly educated women.

If we apply the 20% reduction to the LBW rate of 115/1000 live births born to the 110,601 women on public health assistance alone who completed less than 12 years of education, the WIC Program would have a major impact. A 20% reduction in this group results in a decrease from 115 to 92 low birth weight infants/1000 live births. This reduction of 23 low birth weight infants for every 1000 births will have the following results:

1) As estimated decrease of 10% in infant mortality. This translated into a decline in the infant death rate of 2.3 infants per/1000 live births. This will result in a decrease of 254 infants death in this high risk group of women alone. The assumption in this model is consistent with the observed decrease in neonatal mortality in the historical study of the National Evaluation and the low birth weight reduction in the GAO Report.

2) An estimated savings in intensive care hospital costs conservatively estimated to be $13,616 per low birth weight infant. By preventing 2544 low weight births and the associated cost of hospitalization of women there will be a savings of $34,639,104 in medical and hospital costs.

3) In additional there will be a savings of $5,580 per rehospitalized low birth weight infant. This rehospitalization is estimated to occur in 20% of all low birth weight infants in the first year of life. This will result in a savings of $4,580 x 509 infants or $2,840,220 in this cohort of high risk low income mothers and infants.

4) Further, a savings of $1,405 per year will be realized for the 18% of surviving low birth weight infants who require long term care. This is estimated to be a recurring annual cost of $1,405. Reduction in the number of low birth weight infants will result in a savings of $643,490 per year for the 458 infants in this cohort estimated to require this addi tional care.

Thus, for this one cohort of high risk infants born to poorly educated women a positive WIC Program effect results in a 20% reduction in low birth weight infants. This will result in a savings of $38,122,814 in direct medical costs. There is an urgent need therefore to assure that 100% of eligible high risk pregnant women participate in WIC as well as their infants and preschool children to retain their nutritional head start. We should not be content with only one-third of the eligibles participating in the program.

Reduced Priced School Meals

There is a need to increase the participation in the free and reduced price school meal programs on a National level. It is an opportunity to simultaneously impact the nutritional and educational well being of disadvantaged children on an ongoing basis. The provision of breakfast and lunch for 180 days a year to the neediest among us will have considerable national impact.

In Maryland when the charges for reduced price meals increased from ten to thirty cents for breakfast and twenty to forty cents for lunch in 1981, the number of meals served dropped 75.1% and 41.6% respectively. The Maryland experience mirrors the National patterns

and projections for FY 87 show participation figures remaining at these lower levels.

Through State initiative in FY 87, Maryland will subsidize the reduced price school meals for eligible children in an attempt to increase the participation levels. Despite the approach taken in this State, this should not be left to individual State initiative; rather the charges for reduced price meals should be rolled back to the pre 1981 levels and States encouraged to increase the level of participation. Low-income students, who may well be at other educational disadvantages, can ill afford to come into the classroom inadequately fed. The states can ill afford the estimated federal dollar loss resulting from low participation rates in the reduced-price programs.

New Intitiatives

While it is possible to dispute the impact of Federal cut backs, it is apparent that many key indicators of maternal and child health have been plateauing or deteriorating over the past several years. The number of teenage pregencies is high, and the level of prenatal health care is low. Low birth weight continue to push our infant mortality rates to a very high level when compared to other industrialized nations. Coupled with this lack of forward progress is a real reduction in the numbers of low income individuals participating in the food stamp program, the USDA supplemental feeding program, the National free and reduced price school feeding programs; with the concomitant rise in the utilization rates of local food pantries, food banks, soup kitchens, and private sector aid. It would appear that there is a pattern which indicates increased risk as a result of decreased availability of critical federal support services that cannot be adequately substituted for by local and private resource.

A decrease in Federal support for maternal and child health program and the shifts in organzing and paying for health care services may lead to an even greater deterioration of the health of the most vulnerable populations. Public policy and the health of mothers and children have been inexorably linked throughout this century. There is clear evidence that Federal programs which facilitated access to health care and an improvement in the Nutritional status of high risk groups has resulted in a decrease in low birth weight infants, a decrease in infant mortality which includes neonatal and post neonatal mortality, births to teenagers, improved growth and development, and reduced morbidity.

Reductions in children's program as reflected by cuts in the Maternal and Child Health Block Grant, Family Planning Services, Child Welfare and Child Care Services, and employment training opportunities, will result in an increase in the health, nutritional and social problems of the poor and their children.

To reverse this we need:

1. To decrease the proportion of low birth weight infants: we need to assure participation in the Food Stamp Program, the WIC Program, health care facilities providing prenatal services and increased participation in the medicaid program.

2. To decrease neonatal mortality: we need to reduce low birth weight as noted above, increase prenatal care, assure participation in the WIC and Food Stamp Program, improve access to health care, improve family planning services, have abortion services available, continue to improve neonatal intensive care services, increase Medicaid participation and increase research funds.

3. To decrease post-neonatal mortality: we need to maximize participation in Federal Assistance Programs, increase availability of Health Care Services, support for increased immunization, and increase Medicaid participation.

4. To decrease the number of teen births: we need increased family planning services, Jobs programs for youth, Family support services, school based clinics, pregnancy prevention programs, public education and abortion.

5. To improve the level of school performance: we need increased funding of the National School Lunch and Breakfast Programs, a rollback in the cost of reduced price meals, and a rededication to maximizing the number of participants in the free and reduced price School Breakfast Program.

6. To increase the participation in the Federal Supplemental Feeding Programs: we need improvement in the enrollment procedures for the Food Stamp Program, increase in benefits consistent with current food costs, and finding for outreach programs. WIC Program participation should be increased to reach a higher percentage of the eligible population and an immediate shift to universal participation of high risk pregnant women.

The decade of the 80's is an unsettled time for the disadvantaged. Poor families and their children have had to share an even greater burden than other segments of the community. The promise of past progress has not been fully achieved. We must regain the momentum being lost in our current Public Health Policy.

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Senator SARBANES. Thank you very much, Dr. Paige.

Dr. Heald, professor of pediatrics and director of the division of adolescent medicine at the University of Maryland School of Medicine.

STATEMENT OF FELIX P. HEALD, M.D., PROFESSOR OF PEDIATRICS AND DIRECTOR OF ADOLESCENT MEDICINE, THE UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

Dr. HEALD. Thank you, Senator Sarbanes.

Since I was well aware that my other colleagues would discuss issues of children, I want to focus on three issues that are of some concern to me and some personal experience that we find in the adolescent.

Adolescents are ordinarily considered one of the healthiest periods of human existence. By and large this is true, but there are certain disorders which cause considerable physical, emotional, psychosocial, morbidity and mortality. I'd like to focus on three specific areas of morbidity and mortality which still require significant resources and further understanding to reduce their costs, both to the adolescent and to the Nation.

The first two problems I would like to bring to your attention are the results of a change in the sexual attitudes and behavior of our people, including our own teenage population.

Our society has become more sexually permissive, initially at an adult level, and then somewhat later, among our teenage youth. Sexual activity now occurs at an increasingly younger age and in the younger age group population, which is of some concern to us, even more frequently than in the past.

We should also remember in talking about sexual activity in teenagers, that there are a considerable number of our youth who are not sexually active.

Now, I would feel like the odd man out this morning if I didn't talk about the low birthweight infant. So although I did not include that in my original remarks, I do want to say a few words about it, Senator Sarbanes.

In 1980, along with our sister institution at Johns Hopkins, we initiated some special programs for prenatal care of pregnant teenagers. In our own institution, we confined the program because of cost constraints to those youngsters who are age 16 years and under. Our specific aim was to reduce the number of low birthweight infants, which at that time ran about a steady 20 percent of those youngsters who are 16 and under. And as a result of this program, it is now down to a steady rate of between 8 and 9 percent a year.

The only point I'm making is that the prevention of low birthweight babies to teenagers, young teenagers, basically an issue around premature birth, is a preventable problem. It just takes organization of current knowledge to implement appropriate programs by appropriately trained people. If you can do this with poor inner-city youngsters, you can do it with any other group of poor in our country.

So we need to find out where they are and to target them with appropriately trained people with appropriate programs which concentrate on this very young age group.

But those of us who work with this particular population of youngsters, instead of seeing anywhere from 175 to 200 a year in our prenatal clinic, I really wouldn't like to see any, because it's really not in the youngster's best interests or anyone's best interest for these very young teenagers to be having babies.

The issue is why is it such a problem in the United States? The United States has the highest rate of teenage pregnancy by far in the developed countries.

This past spring, really a landmark paper was published, a study was published by the Guttmacher Institute, authored by Jones et al., and shed considerable light on why we have such a high rate of teenage pregnancy.

They looked, really, at six countries—including Sweden, Great Britain, France, the United States, and the Netherlands. These countries all had a similar rate of teenagers who were sexually active; that is, the rate of sexual activity was similar, except for Sweden, which had a higher rate of sexual activity among their teenagers. But there was a sharp difference, particularly when compared to the United States and the other countries in terms of teenage pregnancy and abortion.

The Netherlands, by far, had the lowest rate of teenage pregnancies, despite the fact that the percentage of teenage girls in the United States and the Netherlands are almost identical. The United States has a far higher rate. The same for abortion.

Now what is the difference between the other countries and the United States?

Well, some of the differences they felt were important were, and the two major differences, is the public perception, the adult perception of the morality, if you will, of adolescent sexual activity, and based on that, the countries were able to make access to contraception and family planning clinics readily available, and, if you will, permissible; that is, the teenagers taking cues from the adult population, saying that it's OK to go and get family planning if you're sexually active, or it's responsible to.

Now, the problem in this country is our Government and its constituents are deeply divided and split over the issue of family planning, over the issue of abortion, over the issue of teenage pregnancy. Should family planning be widely and easily available to teenagers or should we be more restrictive?

You can find groups who will take either side of that.

Teenagers know this and, as a result, we are much more reluctant than teens in other countries studied to make use of available family planning resources. As a result, those sexually active teenagers do not have ready access to contraceptive services designed for their needs. Therefore, we should not be surprised by the high pregnancy and high abortion rates in the United States.

We know enough about the reproductive issues of teenagers to drastically reduce the rates of pregnancy and abortion. The only question that remains is the ability of the people and their government to arrive at a consensus and adopt a more appropriate course of action than the present divisive posture.

The second major problem resulting from the change in sexual attitude and behavior among our teenagers is the sharp increase in sexually transmitted diseases. Numerically, sexually transmitted disease is the most common infectious disease, with the exception of the common cold, during adolescence.

The rate of gonococcal infection is highest in young adults, 19 to 24, and next highest in the 15- to 19-year-old age group.

If one corrects and looks at the rates per sexually active population of teenagers, they have the highest attack rates of all ages for sexually transmitted disease and their complications.

There are a number of infectious agents that are of concern to us in addition to gonococcus—herpes simplex virus, chlamydia, the papilloma virus more recently, and they, too, have a similar distribution in our young people, being very common.

This is a major health problem, particularly for inner-city teenagers. As a result of these infections, complications such as infertility and ectopic pregnancy are found far too frequently and are very costly medically.

In addition, teenage girls may be developing the biological basis for later development of cancer of the cervix. I'm speaking specifically of the recent evidence linking the papilloma virus, which is becoming very common in our own adolescent clinic as a precursor for carcinoma of the cervix later on in life. Because of the psychological nature of the teenager, special measures in clinics somewhat different from those ordinarily used for adults need to be supported widely in trying to control these infections.

In addition, basic microbiological and clinical research, specifically through the Centers for Disease Control, need to be increased.

Now a third major problem that has been overlooked in the health care of the adolescents is the result of motor vehicle accidents. We have been aware for sometime that motor vehicle accidents have been the major cause of death among adolescents and young adults.

For example, in the year of 1975, there were about 15,000 deaths to this age group, of which 12,250 were to males and the remaining to females. And the cost here is in human lives and lost potential. The economic cost is virtually nil because little gets expended on them because they die so quickly.

What has been overlooked, during the same period of time, is that there were 1.6 million accidents in this age group, again, males mostly predominant. The thing that has changed during the past years, as a result of the specialized shock trauma emergency systems in this country, is that an increasing number of teenagers have survived these serious accidents.

In the year 1975, there were 35,000 youngsters who were severely injured, though surviving the accidents. We have not really taken a close look at the morbidity as a result of these accidents.

Until recently, we have underestimated the inability of closed head injured teenagers, which is the major morbidity, to function in school for months or even years after the accident. Their parents are bewildered by their inappropriate behavior and their educators are angered by their inability to do their school work.

Even after mild injuries, deficits such as impaired judgment, reduced attention span, irritability, short-term memory loss, and other ongoing memory deficits are encountered by these teenagers.

The most difficult task for the professional is to separate the usual behavior resulting from head injury from normal adolescent behavior. Thus, we have identified this as a major cause of morbidity resulting from automobile accidents in our own program, and specifically closed head injuries, and are working out long-term rehabilitation studies to best know how to rehabilitate these teenagers.

We basically are not sure what the issues are in very specific terms. We need to know much more about the effect of brain injury on brain function following head injury and programs that investigate this particular issue will result in information upon which we can better prepare remedial programs.

Clearly, this area now is underfunded and needs greater support.

Finally, it is clear that teenagers for certain specialized disorders, such as some of them mentioned here, need the resources of people training in adolescent medicine. Such people are in short supply due to the shortage of funds and the number of adolescent health care training centers in this country.

Incidentally, Senator Sarbanes, I have a meeting at 12 today where we have to consider, have to adjust our teenage pregnancy program because of budget cuts, readjust our staff and reduce the staffing for the adolescent portion of this program, which has been so effective, incidentially, in cutting back on our low birthweight infants.

We're going to lose staff.

Thank you.

[The prepared statement of Dr. Heald follows:]

PREPARED STATEMENT OF FELIX P. HEALD, M.D.

Adolescents are ordinarily considered one of the healthiest periods of human existence. By in large this is true, for this age group is free of many of the diseases which cause considerable morbidity and mortality in our adult population. Further they are less likely to have some of the earlier childhood diseases like genetic defects which are concentrated heavily in the newborn and childhood ages. Adolescence is a time of life when mortality rates are at their lowest ebb. Let us not be misled by the fact that adolescents generally are disease free. There still remain disorders of adolescence, which cause considerable physical, emotional, psychosocial, and economic morbidity and mortality.

The testimony today will focus on three major areas of morbidity and mortality during adolescence which still require significant resources and further understanding to reduce their current morbidity and mortality. The first two problems I would like to bring to your attention are the results of a change in the sexual attitudes and behavior of our people including our teenage population. Our society has become more sexually permissive, first at an adult level, and then somewhat later, among our young people. Therefore, sexual activity occurs at an increasingly younger age and more frequently even in the younger teens. It should also be remembered that during the teenage years a considerable number of teenagers are not sexually active.

In a recent study comparing the sexual activities of the

number of developed countries, Swedish teenagers initiated sexual activity at least a year earlier than other countries.[1] Whereas Canadian teenagers initiated sexual activity a year later. The rest of the countries, Great Britain, France, United States, and the Netherlands had the same percentage of teenagers being sexually active from ages 15 - 19. However, if one looks at the pregnancy rates for the same countries, the United States by far leads the rest of the countries in this recent study from the Guttmacher Institute. The Netherlands, by far, had the lowest rate of teenage pregnancies, despite the fact that the percentage of teenage girls in both countries had about the same rate of sexual activity. Also quite striking are the abortion rates in the United States, by far higher than either France, Canada, Sweden, Great Britain or the Netherlands. If one looks at the contraception and the use of family planning in these countries, it is quite clear that American adolescents use contraception much less effectively in order to avoid adolescent pregnancy. When they do use contraception, they tend to use a much less effective method. This problem is a serious one because in all probability it results from a deep division in this country over the approach to teenage pregnancy. Our teenagers have the worse of all possibilities. Jones et al, from the Guttmacher Institute, says; "U.S. teenagers have inherited the worse of all possibilities, movies, music, radio and television tell them that sex is romantic, exciting and titillating yet at the same time young people get the message that good girls should say no". Further, our government and its constituents are deeply split over the issue of family planning. Should family planning be

widely and easily available to teenagers, or we should be more restrictive? Teenagers know this, and as a result are much more reluctant than teens in other countries studied to make use of available family planning. As a result those sexually active teenagers do not have ready access to contraceptive services designed for their needs. Therefore we should not be surprised by high pregnancy and abortion rates in the United States.

We know enough about the reproductive issues of teenagers to drastically reduce the rates of pregnancy and abortion. The only question remains is the ability of the people and their government to arrive at a concensus and adapt a more appropriate course of action than the present divisive posture.

The second major problem resulting from the change in sexual attitudes and behavior among our teenagers is the sharp increase in sexually transmitted diseases. Numerically, sexually transmitted diseases is the most common infectious disease with the exception of the common cold during adolescence. The rate of gonococcal infection is highest in the young adults, 19-24 years, and next highest in the 15-19 year olds. These two age groups account for seventy-five percent of all the cases of reported gonorrhea. Other sexually transmitted diseases, such as herpes simplex, chlamydia, and papilloma virus have a similar age distribution nationally. Chlamydia, particularly in adolescent females, is three-times more common than gonococcal infections. It is a major public health problem, particularly for inner-city teenagers. As a result of these infections, complications such as infertility and ectopic pregnancy are found far too

frequently. In addition, teenage girls may be developing the biological basis for later development of cancer of the cervix. Because of the psychological nature of the teenager, special measures and clinics somewhat different from those ordinarily used for adults, need to be supported widely in trying to control these infections. In addition, basic microbiological and clinical research, (through the Center for Disease Control) need to be increased.

The third major problem that has been overlooked in health care of adolescents is the result of motor vehicle accidents. We have been aware for some time that motor vehicle accidents have been a major cause of death for boys and girls between the ages of 15-24. For example, there were 12,250 deaths in the year of 1975 for males compared to 3,451 for females. In the same time period there were total of 1.6 million accidents in this age group of which 985,184 were males and 654,376 were females. During the past ten years, as a result of the specialized shock-trauma emergency systems in this country, an increasing number of teenagers have survived serious accidents. In the year of 1975 there were 35,000 youngsters who survived, yet were classified as having serious injuries. The morbidity that has escaped attention up until recently has been the damaging effect of closed head injury. Until recently we have under-estimated the inability of closed head injured teenagers to function in school for months after the accident. Their parents are bewildered by their inappropriate behavior and their educators are angered by their inability to do their school work. Even after mild injuries, deficits such as impaired judgment, reduced

attention span, irritability, short-term memory loss, and other on-going memory deficits are encountered by these teenagers. The most difficult task for the professional is to separate the unusual behavior resulting from head injury from normal adolescent behavior. Thus, we have identified this as a major cause of morbidity resulting from automobile accidents, specifically closed head injuries and are working out long-term rehabilitation studies to best know how to rehabilitate these teenagers. These programs need to be supported.

And finally it is clear that teenagers for certain specialized disorders, such as those mentioned here, need the resources of people trained in adolescent medicine. Such people are in short supply due to the shortage of funds and the number of adolescent Health Care training centers in this country.

Senator SARBANES. Thank you very much. I just want to ask a couple of questions, for the record, of the doctors.

First of all, would you define low birthweight as you've been using it in your testimony for the record?

Dr. OSKI. A low birthweight infant is normally defined as an infant weighing less then 2,500 grams. That's 5½ pounds. A very low birthweight infant is defined as an infant weighing less then 1,500 grams, or approximately 3 pounds.

Senator SARBANES. OK. Now, I want to put this question—I'll come to Ms. Rosenbaum in a minute—to the doctors.

As you look at the child's progression, beginning in the prebirth stages, can you determine the critical times for health, in terms of later consequences?

In other words, if you have a limited amount of money, or as you start putting money out, which are the most critical periods to address, conceding that in a sense they are all critical. I'm thinking in terms of fewer problems over time—in other words, how does the 9-month period of pregnancy compare with the 1 year after, or is that period all critical and then we see a change?

At what point does the neglect have fewer consequences than at some other point, if that is a sensible question?

Dr. PAIGE. It's sensible. It's difficult to partition with precision. But clearly, I would urge, I would recommend that we address the pregnancy, the period of embryonic development and fetal growth are critical, with respect to long-term consequences, and the period during the first 6 months to 1 year are particularly important as well.

During the period of rapid fetal development, inadequate maternal nutritional results in fat stored in that mother being drawn down, which will lead to a less than complete maximum optimal fetal growth and development.

That is one of the factors which contribute to low birthweight. And we know from studies abroad, in less developed countries, that where the nutritional health of the mother is poor, the nutritional well-being of the newborn will be compromised.

And really, as you put to Dr. Sabin earlier, what would you do with respect to reversing this trend? I don't see any reason why we would not have universal prenatal services available for all low-income women.

The WIC Program has been considered even by its sharpest critics a success. Nutritional intervention strategies which promote the prenatal nutrition of the mother and therefore, by extension, the fetus, is a very positive thing to do.

The absence of universal prenatal services, particularly for our most disadvantaged population, is something that is intellectually, emotionally, morally, and certainly economically, unsound.

So I don't understand the absence of it at this point in time. I further don't understand why there would not be universal entitlement to health services for particularly preschool children in our country.

I can go on, but I know that my colleagues may have some additional thoughts.

Senator SARBANES. Dr. Oski.

Dr. OSKI. I would certainly agree with the statement that Dr. Paige made about the most crucial time to invest your money if you have a limited amount of funds to invest.

I personally don't think we should have to face that choice, but I certainly think up to about 2 years of age, I would extend that time of critical development because by that time, about 80 percent of brain growth has occurred.

Senator SARBANES. By the age of 2?

Dr. OSKI. By about the age of 2. But that's not to minimize the importance of what happens after age 2 in terms of social development.

Senator SARBANES. Right.

Dr. PAIGE. The nutritional head start that can be realized by a mother who is well nourished and, by extension, the fetus and then the newborn, is rather dramatic.

Scientific evidence has indicated over the last 5 to 10 years that the maternal fat stores, her ability to lay down good energy reserve to maintain the latter part of this pregnancy, is not only good for the fetus, but it provides maximum stores for the newborn as well, to carry them forward, propel them forward through those early months in time.

It has a direct effect on the exponential growth of many of the organs which are growing in this latter part of the pregnancy.

And to face a third of the eligible population participating in the WIC Program doesn't make good sense on a national basis. It's a small cost. It's a very small cost. WIC at this time is about $1.2 billion. We could provide entitlement for all low-income women, beg the issue of its impact on the older preschool child, which I think, too, is important. I don't want to trivialize that.

But if there's a national consensus that's important with respect to this segment of the population, and I think even the sharpest critics on the Senate Agricultural Committee would agree, then why not provide for a universal provision of nutrition services and prenatal care?

We're woefully behind other industrialized nations in this particular regard.

Senator SARBANES. Dr. Heald.

Dr. HEALD. I would just point out one other thing that's really a problem, particularly for the pregnant teenager. That is, for the most part, they do not come in to see services until about the 24th week of pregnancy, on the average. So that almost two-thirds of the pregnancies go on before they even seek services.

The problem of why this occurs is multifaceted, partly related to, again, the attitudes of adult society and the controversy over teenage pregnancy and the sexual activities of teenagers, so that they tend not to seek care early.

You know, Senator Sarbanes, we have probably some of the most effective advertising corporations in the world in this country. And we could certainly change, with appropriate leadership from our public health community, the attitudes and behavior of our population toward pregnancy and access to services and encourage them to come for services instead of putting all of the blocks in that are presently both emotional and bureaucratic blocks that are put up that they have to overcome before they seek service.

Senator SARBANES. That comment leads into my next question, which I would ask of all of you. It is this: Suppose you were just to give money? Suppose you were to take persons in poverty and just give them income?

To what extent do you think that the health care problems we are addressing would be adequately dealt with? That is, if money is not provided through programs that ensure they actually do these things? And I guess I'm really asking a question, which is if you simply gave people money, would they then take care of themselves, or must it be done through a structured program that assures that it's going to be done?

How much of a problem is that?

Dr. OSKI. I personally don't think that giving the money, giving anyone money, initially, immediately would result in improved services, improved health care. I think that would not be the No. 1 priority on most people's list of things, particularly preventive services. It takes years to see the consequences of what you've accomplished.

I think that over the course of a decade or more, maybe you'd see health measures rise as a consequence of this stipend, but not overnight.

I would much prefer to provide the services and enlist the participation of every single person on a block-by-block basis, much like the experience in China that Dr. Sabin referred to, to have a cadre of barefoot doctors who go door to door and make certain every person has signed up for every entitlement program that is available, making certain that every child is immunized, making certain that every young girl is benefiting from prenatal services and appropriate nutrition.

I think that's the way to go.

Senator SARBANES. I guess another way to put the question is to focus on low-income persons, as obviously we should since they have the most pressing problem. But that doesn't mean as you're moving up the income scale and moving out of the lowest income group into the next category, that in that next category the health needs of children or of the pregnancies are being fully met.

You may still have a deficiency taking place. Would that not be the case? I mean, you could have it even at the highest of incomes, but there you'd assume some kind of gross irresponsibility, I guess.

Dr. PAIGE. Well, it's a multipronged issue and there's probably no facile solution.

But if it's possible, I would agree with the intent of both statements, Dr. Oski and yours as well, I think in the short term there is need for ongoing support services. As I've looked at this issue in Maryland, I've come to the conclusion that all of these programs represent a band-aid approach to the hemorrhage that exists among the poor, that the fundamental problem is poverty, at least as I see it, and that until we cure the economic deficits that exist, which are at the root of all of these issues and others, as we bring others to the table who have broader perspectives than the medical people, we'll hear of even other problems, I'm sure.

It's my judgment, after looking at these issues for a while, that they're issues rooted in poverty and until you get to the root cause

of the problem, we will not cure this problem in this country. We're talking about unemployment.

One of my doctoral students who came to provide some preliminary data to me derived from the Hopkins teenage pregnancy program here in east Baltimore, looking at logistic models and multiple regressions and all of the more sophisticated information, indicates that in a population of about 900 pregnant women, one of the most significant factors operating in short, interpregnancy intervals has to do with unemployment, that the lack of employment is the most significant factor associated with short, interpregnancy interval.

Whether that will hold up on additional analysis, I don't know. But clearly, if by the question you suggest that these are all interrelated, I would agree and I don't think that single approaches are as effective as the gutting of poverty within this country.

Senator SARBANES. Well, perhaps. But, in a comprehensive sense, that's obviously true. How do you break the vicious circle and where can you be most effective for the best investment of money?

For instance, let me ask this question. If you lose a critical period of the first 2 years, what are the implications for the learning capacity of those youngsters and their school performance and, to carry forward, their job performance?

Is part of today's unemployment problem the neglect of young people some years ago who now have had their capacities impaired because of that?

Dr. OSKI. We'd like to be able to answer yes to that, but I don't think we can say with specificity. This is an area that does need further research, to see if that's true. Although there's a cumulative effect of poverty, there's the impact of lead poisoning on intellect. There's the impact of nutrition on subsequent intellect. There's the impact of birthweight on subsequent intellect. And all these things add up and they are functions of poverty and they do play a role in the early years of life.

How we can sort of dissect out each one of those——

Senator SARBANES. It's hard to do.

Dr. OSKI. It's hard to do.

Senator SARBANES. That's right.

Ms. Rosenbaum.

Ms. ROSENBAUM. I'd like to add a couple of thoughts to the issue of poverty. There's no question that poverty has many, many effects on people. It diminishes their ability to gain access to services. Because over a long period of time, long-term poverty can diminish a family's ability to even perceive that a service is needed because they've been excluded from the service for so long that they may have less of an appreciation than nonpoor families would about the need for the service.

But I think that it's crucial that we not overlook a point that's been reiterated by almost every witness. And that is that we have gross systemic problems in this country that have very little to do with individual poverty, per se, and more to do with how we've chosen to carry out the business of health care.

We don't have a health system in place that assures, simply as a matter of living in the United States, that certain services are available. If I lost my health insurance tomorrow, I very quickly

could find myself in as desperate a situation as a poor family. We have an incredibly inadequate public health system. I'm sure here in Baltimore we see the same phenomenon that we see in other parts of the country.

Right now, in Los Angeles, it takes about 2 months for a pregnant woman to get her initial prenatal visit at a public maternity clinic because those services are so underfunded that there simply is no capacity to serve her quickly.

Even if a pregnant teenager wanted to come in the door quickly, she couldn't in Los Angeles.

Senator SARBANES. What's the situation here? Do we know? In Baltimore.

Dr. HEALD. I can only speak for teenagers. They can be appointed within 2 weeks.

Senator SARBANES. Two weeks.

Dr. HEALD. If a pregnancy has been identified.

Senator SARBANES. What percent was it that did not get any care prior to 24 weeks that you said earlier?

Dr. HEALD. The average age for coming in to our clinic is 24 weeks.

Senator SARBANES. I see. So 24. But assuming they come in right in the beginning, they can get an appointment in 2 weeks.

Dr. HEALD. They can get an appointment in 2 weeks.

Senator SARBANES. Los Angeles, 2 months.

Ms. ROSENBAUM. Two months. In Washington, DC, Providence Hospital offers a subsidized maternity program. It has 300 slots a year. They have a 2,500-person waiting list for those 300 slots. They had no waiting list 4 or 5 years ago.

In rural Maryland—you know, we think, of course, that Maryland—I'm a Maryland resident, so I know that our biggest population concentration is in Baltimore. But I do a lot of work in the Eastern Shore counties. Those counties are in desperate straits in terms of having a range of medical care readily accessible to families who have marginal incomes.

There are certain kinds of services that probably shouldn't even be funded along an insurance model, which is what we use in this country for just about everything. We should simply have a maternity program, a pediatric program. Insurance is something you use when you want to protect yourself against high-medical risks. It's not a particularly economically efficient or administratively efficient way of trying to get very basic services out to the population.

Unfortunately, it is our predominant model and short of calling for a complete change in how we finance health care, at least in the short term, we could simply improve the system's responsiveness to families whose employers don't offer insurance. We could pump more money into programs that, unfortunately, the administration has chosen to shut down, programs like the National Health Service Corps, which provides scholarship moneys for students to go out into underserved areas.

Well, by 1991, we'll have two people placed under that program because we've ended that program. We may have a glut of physicians in Baltimore, but we don't have a glut of physicians in many other areas.

Senator SARBANES. And let me just amend that. Even if you have a glut of physicians in Baltimore, you'll have a glut of physicians in the Baltimore metropolitan area.

Ms. ROSENBAUM. Exactly.

Senator SARBANES. But you'll not necessarily have a glut of them in certain geographical sectors of the Baltimore metropolitan area.

Ms. ROSENBAUM. Exactly. And so that's not in any way to diminish the importance of making sure that people have enough money to achieve a decent standard of living. But, unfortunately, medical care is now so expensive, that simply giving money—and so complicated—that you can't just give money to solve the problem. You have to deal at some point with the systemic issues.

Senator SARBANES. Let me ask another question that feeds right into it.

It's all very frustrating, in this area in particular, I think, because the benefit to cost ratio on these things is just enormous. For the amount of money you put in, the benefits come back to you.

What programs would you fund? How would you spend it? And bearing in mind Dr. Sabin's admonition earlier, what changes would you make in the organization of the system, or the systemic change in terms of how it was spent?

Suppose someone said, look, you're right. You're talking about very serious problems. We're simply building tomorrow's problems. There's a chance, obviously, we know enough that we can do something about it. Now we're going to look at this thing and we're going to put some more money into it and we may make, along with that, if necessary, structural institutional changes.

What three or four things would each of you recommend? If I could just pose that question.

Dr. HEALD. The first thing, and the most important thing, is maternal and early child health care.

Second would be—I think we have all the information, much of the information—we never have all—we have much of the information that we know how to lower the morbidity of pregnancy. And what we really need to do is stop and rethink our health care organization for maternal and childhood care, and then supply the appropriate leadership and wherewithal to carry out a national plan.

Dr. PAIGE. I would certainly agree with maternal entitlement. I would, within the bounds of what is possible, have entitlement for WIC, so that every pregnant woman could participate in the WIC Program. I would extend my comments beyond the focus this morning and say, just moving chronologically, make sure that there was day care available.

I want to emphasize the point that Dr. Sabin made with respect to promotion of breastfeeding on a national basis. I don't think we've paid attention to that. National free and reduced price lunch programs should be transformed into an entitlement program within the schools for all of our needy children. Food stamps available to all of our population. And a better educational program within our schools to permit our young people to move forward and to find employment and to fulfill their American dream.

Senator SARBANES. Dr. Oski.

Dr. OSKI. I would start out by offering and providing subsidized health insurance for every single person that needed it. And there

are programs underway now with the cooperation of Blue Cross and Blue Shield to try and make a dent in that large area of people who fall below poverty but are not eligible for Medicaid.

So subsidized health insurance would be No. 1.

No. 2, I would get a core of block workers. I mentioned before I'd have people going from block to block and making certain that every single person got enrolled in what was currently available to them.

I'd love to have enough money to start the analogous situation to the Peace Corps, but use a mandatory Peace Corps for every one of our American citizens to spend 2 years dealing with the problems of poverty in the inner city.

I would also certainly use some of my money, depending on how much you gave me, to make certain that day care was available and adequate nutrition was available for every American, too.

Ms. ROSENBAUM. I don't have much to add to the list. I just want to note that we recently did some cost estimates for a separate study of what it would cost if we wanted to take the existing Medicaid Program, for example, and amend it so that it provided coverage for families below the Federal poverty level and a subsidized insurance plan for families between 150 and 250 percent of poverty on a sliding premium basis.

For pregnancy alone, it would only cost about $1½ billion to make Medicaid available to any woman with a family income under 250 percent of poverty on a subsidized basis, with the subsidy obviously increasing the lower her income went.

At current Medicaid matching rates, that would be only about $800 million.

Senator SARBANES. Can I interrupt right there? Let me ask the panel this: Are you all satisfied that people with incomes above poverty are coming pretty close to doing all they ought to do with respect to their children, both in pregnancy and postpregnancy periods, and so forth?

All the focus has been on poverty levels. I understand why it is; obviously, the problem is even more severe there. But how much of a problem is it, or do you see a problem there?

Dr. OSKI. I think they have the means to do it. They may not have the priorities. They may have so many other things they want to do with their income.

Senator SARBANES. But society's going to pay a cost if they don't put this priority at the top or near the top of their list.

Ms. ROSENBAUM. I disagree because if you look, there are about 9½ million families of child-bearing age who have no health insurance in the United States. About 5 million have family incomes below the Federal poverty level. The rest are pretty much concentrated into that 100 to 250 percent range.

The average cost of a maternity care package—remember, 250 percent of the poverty level is only about $20,000 a year for a family of four. The average cost of an uncomplicated delivery at this point, including medical and hospital care, is $4,000, and if it's a cesarean section delivery, we're over $5,000 at this point.

For a woman with a family income of $20,000 a year, it's not simply a matter of different priorities. She can't possibly, if she has that kind of family income, afford to pay that. Now she might be

able to pay if off over time. But the problem right now is that, in many areas of the country, because health care is so expensive, in order to get obstetrical services, you must either have insurance or you must prepay your bills. You must pay for your medical bills before the delivery. You must pay a large preadmission deposit just go get into a hospital.

In Texas, for example, hospitals in some parts charge as much as $3,000 for a preadmission deposit. Now, I will tell you that in my family, it would be very difficult if I had no insurance to simply come up with $3,000 to pay for my delivery in advance.

This is not a phenomenon—medical care is so costly, so is food. Food, if you're above the Federal poverty level, you can probably have an easier time coping with food needs. But medical care is not accessible to people without insurance and with family incomes below many hundreds percent of the Federal poverty level.

And until we begin to build on the basic programs and make those basic programs more accessible to near poor or lower income families, we're going to find an enormous band, we're going to continue the old categorical approach in this country of picking off narrow categories of people and leaving a great bulk of Americans who are unable to afford these services with no relief.

And I think the time has come for us to begin acknowledging that, of course, as you're saying, the worst of the problems are concentrated in those families who have nothing to fall back on.

But a woman making $14,000 a year as a secretary, with two children to support, and with a husband who may be unemployed, is in no position to afford maternity care if she needs it. She just is not. And yet, she's not technically poor.

Senator SARBANES. Dr. Sabin, did you have any comments you want to make, having listened to this panel?

Dr. SABIN. I wonder if I may summarize some of my thoughts after hearing what all these people said.

In the first place, in addressing child health programs in the United States, we are not forgetting, for those who will say that the light is being put in only one corner of the problem, that the vast majority of the children of the United States are better off now than they've ever been before and are getting a great deal of what they need, despite the fact that there are problems.

It's a complex thing. It's not any one thing.

But it is not enough for a rich and compassionate country to sit back and say, now look, by and large, look at the great advantages that we have for our children. A rich and compassionate country has a responsibility to those who cannot make the grade, for whatever reason—it is not enough to say that it is their responsibility, that they are in that state because of what they had done. That is not right.

So out of this discussion have come many aspects of child health that are concentrated among those that are called the poor.

And the issue that arises is, for example, you said, what would additional money do? Well, it's quite obvious, Ms. Rosenbaum pointed out, that we're facing two problems. The immediate one. Well, for the immediate one, you need additional money to do the things that are obviously and, as has been documented, underfunded. No child should go hungry. No pregnant woman should have to

suffer because her husband left her and she has no job, and should have to go without the food she needs for the maternal health care. Immunization programs, sudden infant death, which we haven't mentioned, or battered children, the problems are very, very extensive.

So I think, first of all, you need money to help those who cannot help themselves in essential programs that have been documented.

But then, Dr. Paige made a very important point, which is perhaps not generally thought about, but again, I refer to the Catholic bishops' letter, the headline in the Washington Post 2 months ago was: "Catholic Bishops' Letter Asserts Employment Is a Basic Right."

Now what do you do about a basic right that doesn't exist? Fine, we all agree it's a basic right. But what do you do about it? And what do you do about poverty in certain sectors of the American population? Give them money, as has been suggested by some, as you brought out in a question here, that perhaps everybody should have a certain support, below which, you see, he will not want.

But we're getting now away from the need for immediate attention, and there's a lot of money needed for immediate attention. I would say proper prenatal care, as has been brought out, sufficiently subsidized is absolutely essential.

But employment is the requirement for human dignity to which every person is really entitled. And employment for certain segments of our population cannot be left to the individual alone—you have to do it; it's because you're not trying hard enough; you weren't educated.

That's not enough.

To provide employment for a large section of the population that cannot help itself is a national responsibility.

And how to do that? Are we going to go back to the WPA days of half a century in which I was already an adult and saw things happen? No, I'm not saying that that is the way, but it is a responsibility that requires very careful thought.

In other words, women in the poor segment of the population that have more kids than they can take care of and have no income, to give them some immediate help, good enough. That's absolutely necessary. But there's no reason why there should not be national programs for providing employment, for having children of mothers who cannot work or cannot help themselves in day care centers while the mothers can participate and work and get a wage, and not necessarily say that if they don't do it, they don't get any help, not either/or.

I think employment must become a national responsibility. People who are thrown out of work because of technological or other changes must not be left to just fend for themselves. And particularly for youngsters in poor communities. And we know that unemployment is very high in the black community because of the poverty there. They need to have opportunities for employment.

So I would take up the cudgels that Dr. Paige raised and say that, in the long-term way of dealing with this problem, unless one developed national programs for the unemployed and those who cannot help themselves, poverty will remain a subject for charity. And charity is not enough.

You talk of making sure that a mother, you see, gets enough nutrition while she's pregnant. Well, we all know, and I've been exposed to situations where a mother who gets food, extra food and has three or four children who don't have the food, she gives it to them and not to herself. She's more concerned with the ones who are already here than with the one who's in the incubator.

So that any program, let's say, that would deal with helping a pregnant mother who's poor must consider the children.

I think what has come out of this hearing shows that the picture is so complex and that while you realize that the underlying factor of the worst problems in child health care have to do with poverty, there are also problems in the populations in various ranges of the spectrum that need help.

So what do you do when you have too many problems to deal with? In my mind, the fortunate thing is that there are so many people to deal with them. See? And the assumption that one group must deal with all of these problems is, of course, wrong.

The division of labor is part of a biological law in a highly organized being like the human being. Without division of labor, organized division of labor—not just you do that and I'll do this—without organized division of labor, without organized regulation, we wouldn't have a human being. We wouldn't have a higher being.

So that the same thing, it seems to me, has to be transferred to the social existence organization. I've never seen anything happen really very good without human organization.

And there are so many people who want to help in this country. This is a compassionate country. But unless you provide them a way of doing it, they don't know what to do.

So more organization, more attempts for long-range dealing with providing employment for people who are unemployed because they can't help themselves, but at the same time, immediate attention to the things that need to be done, and that's where you need your money.

Some of the things have been pointed out already, and I wouldn't say three of four things at the top and forgetting all the others. It has to be more or less across the board. And by God, if anybody can afford it, this nation ought to be able to afford it.

Senator SARBANES. A very eloquent statement.

I want to thank the panel. It was a very good panel. And we'll go on to our last panel.

Thank you all very much. We appreciate your testimony.

Our last panel will be; Dr. Tyson Tildon, who is professor of pediatrics and biochemistry at the University of Maryland School of Medicine; Dr. Karen Davis, professor and chairman of the Department of Health Policy and Management at the Johns Hopkins School of Hygiene and Public Health; and Dr. Marvin Kolb, chairman of the Department of Pediatrics of the Fargo Clinic in Fargo, ND.

We're very pleased to have you. I think we'll just start with Dr. Tildon. Dr. Kolb, you've come a long way. We'll save you until last.

STATEMENT OF J. TYSON TILDON, PH.D., PROFESSOR OF PEDIATRICS AND BIOLOGICAL CHEMISTRY, THE UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

Dr. TILDON. Thank you very much, Senator Sarbanes, for having us. I'm encouraged by your invitation to outline the department's position on Federal funding and to give you some appreciation for what the research community is considering on the effects of Federal cutbacks.

In my remarks, I will try to highlight several items, but in particular, answer some of the questions that you asked, one in terms of where would you focus.

And the second paragraph of my prepared statement really says that. Most academic centers have concentrated their research focus because of research funds on the perinatal period. This would be the fetus before birth and the neonate and the infant during the first early months or life, as has been said by others.

The specific goals of the research efforts related to infants and children have a major thrust toward improving the quality of life and therefore, that is inextricably woven into the fabric of our economy.

There is a concept that I would like to leave here. Because infants and children require care and nurturing, the impact of disease conditions and morbidity in these children multiply severalfold. For example, babies and small children when they become ill in addition to the cost of their illness, mothers and/or fathers must lose time from work.

As a result of the dependency, the economic consequence of disease conditions and poor health status in children have both immediate and long-term effects on our society.

In the interest of time, I would like to say that it should be noted that while our nation is decreasing its emphasis on biomedical research, other nations are increasing their commitment to studies and programs in health sciences.

According to the National Science Foundation, the percentage of the gross national product devoted to civilian research and development for West Germany and Japan is 2.6 percent. But in our country it's about 25 percent less, 1.9 percent.

Taking a page from what Dr. Sabin said, even the developing nation of China has recognized the importance of the health sciences and has targeted health care research for children because it represents that country's most important resource.

But I'm very encouraged by what China has just done and I have the article from the Baltimore Sun papers. It has developed a mechanism for protecting scientists from the economic restrictions of bureaucratic processes. I think that's a very important consideration.

You asked what would be done with the additional money. Let me point out that the major source for funding for research programs in child health is the National Institute of Child Health and Human Development. At the present time, the Institute's budget is about $320 million annually. This translates to less than $5 per family per year.

Yet, for the past 5 years, the National Institute of Child Health and Human Development's ability to fund new grants—these are

new ideas submitted by biomedical or psychological investigators—has declined from 39 percent of the funding to approved grants to 28 percent.

This means that 70 percent of the good ideas do not receive support. That is a place where I would put additional funds.

One of the hallmarks of our society has been the supposition that good ideas shouldn't get lost. The very success of America has been, I think, its responsiveness to new concepts. We stand on the verge of losing our effectiveness of doing this.

Let me go further and say, most critically, the trend toward decreased support has seriously crippled the effort to develop new physician/scientists. At a time when new technology and excitingly different research strategies are being developed, the Federal Government is decreasing its involvement in biomedical research. And this is sending a very chilling message to young investigators, especially those with medical degrees.

To produce a good physician/scientist requires about 5 to 7 years of intense training after medical school, and it is not difficult for me to understand that we are not going to develop this talent if we cannot assure these scientists that they're going to have a reasonable opportunity for being supported.

No one is going to spend 5 to 7 years and then have the possibility of not receiving funds to do the research.

At the present time, the paucity of clinical scientists is being offset by the participation of basic scientists like myself in clinical research. But there is a need for physicians because they represent the linkage between the patient and the research activity.

I want to point out that national health, like national defense, is good for everybody and the scope of biomedical research is too large to fit within the confines of the private sector.

I think the Government must provide major funding for pediatric research because it alone has the capacity to take a comprehensive view.

I want to go on, and some of my remarks are in my prepared statement, but it is estimated that for every $1 invested in biomedical research, there is a return of $13 to the community.

I have one copy of an ad hoc report, but I'd be glad to get more copies of this—this is from the Federation of American Societies for Biologists—if you would so desire.

Other studies reveal that the discoveries that are first made in the medical research laboratories provide the basis for non-health-related products—and I want to underscore this—that contribute more than $40 billion annually to the gross national product.

Senator Dirksen says that a billion here and a billion there and sooner or later, you're talking serious money.

I would think that that is, without a doubt, an indication of what is providing the jobs. And this is what you're asking about, the economic impact.

When you begin to drain off one area, you decrease its effectiveness in many of the possibilities.

I wanted to talk about my own area, but I'm not going to belabor that. Suffice it to say that I think that an existing area of research is neurobiology. We're able now to know a lot about how the brain works. But in our own laboratory, we received a grant just this

year for $500,000. And then we were told that we had to reduce that by 12 percent.

This is devastating, as Dr. Felix Heald just indicated. There is an organism. It's just like, again, like Dr. Sabin indicated. We had a certain organization. It was bare bones. If I make an analogy to the human body—which part do I cut off? The hand? The eye? All of that's less than 12 percent, but you can understand the effect it has.

The cost of doing research also has doubled in the past 10 years. The equipment that cost $10,000 in 1976 now costs $23,000. Chemicals have more than doubled. But now the allocation to NICHD is only increased by 35 percent.

We're in the midst of an explosion of ideas. This has increased the number of research applications. But the numbers of grants being funded has actually remained unchanged.

I only want to make one other area of consideration and that has to do with the health care of infants and children and the dramatic shifts in the social situation.

More mothers are working. Prenatal and postnatal care is changing. And there is a home-office linkage for caring. But there is no way for us to understand these kinds of problems because we won't even invest—that is to say, the researchers won't even invest in this because of the paucity of funds. And I think this is being very penny wise and pound foolish.

I have a statement which has to do with AIDS. I think that, obviously, it has been very well publicized. My only point is I think our inability to really address this issue is a direct outgrowth of our preparedness.

I think that in many cases, immunology could be many steps ahead. Among those 70 percent of our ideas that don't get funded, probably are many opportunities to address that kind of problem.

Another area, of course, is drug abuse. The impact of using drugs has tremendous implications on infants, toddlers, and adolescents. But we also have to have accurate and reliable tests.

The new and effective techniques using immunoassays and high performance liquid chromatography require refinements that we are not allowing.

In my summary statement, when I shared this with my colleagues, people said, you really aren't going to say this, are you? And I said, yes.

I think we need to double—that is, two times—the commitment to the National Institutes of Health and the National Science Foundation.

This, if you doubled it, would support about 50 to 60 percent of the ideas that scientists and their peers have agreed are worthwhile. And that additional cost would only be $25 per person.

I think that it goes without saying that the point that I'm making is that this kind of an investment in research is needed. What is needed most is that it would continue to encourage the creation of problem solvers. And this is what I think is being cut off.

Thank you very much.

[The prepared statement of Dr. Tildon, together with the ad hoc report referred to, follows:]

PREPARED STATEMENT OF J. TYSON TILDON

I am J. Tyson Tildon, Professor of Pediatrics and of Biological Chemistry, University of Maryland School of Medicine. I am a member of the American Society for Biological Chemistry and past chairman of the Public Policy Committee of the American Society for Neurochemistry. I am encouraged by the Honorable Senator Paul Sarbanes' invitation to submit a statement outlining the Department of Pediatric's position concerning Federal funding of research.

Across the nation, most academic pediatric centers have concentrated their research focus on health problems that occur in the perinatal period, i.e., the fetus before birth, the neonate, and the infant during its first months of life. These include studies of nutrition, infectious diseases, immunology, growth disorders, birth defects, mental retardation, developmental disabilities, Sudden Infant Death Syndrome, as well as studies of low birth weight and infant mortality.

The specific goals of the research efforts related to infants and children have a major thrust toward improving the quality of life and thus are inextricably woven into the fabric of our total economy. Because infants and children require care and nurturing, the impact of various disease conditions and morbidity are multiplied several fold. For example, when babies and small children become ill in addition to the cost associated with the illness, mothers and/or fathers must lose time from work. As a result of this dependency, the economic consequences of a disease condition and poor health status in children have both immediate and long range effects on our society.

Most of the discussion of public policy issues as it relates to government support of research efforts, ultimately centers on the question of how the benefits are measured. The other factor in the equation, cost, is usually measured in terms of dollars, but we must understand that cost also includes grief, suffering and human misery.

It should be noted that while our nation is decreasing its emphasis on biomedical research, other nations are increasing their commitments to studies and programs in health sciences. According to the National Science Foundation the percentage of the GNP devoted to civilian research and development is 2.6% for West Germany and Japan whereas in the United States that figure is 25% less or only 1.9%. Even the developing nation of China has recognized the importance of the health sciences and has targeted health care research for children because they represent that country's most important resource and it has recently established a mechanism for protecting scientists from economic restrictions by bureaucrats.

The major source of funding for research programs in child health is the National Institute of Child Health and Human Development. At the present time, the Institute's budget is about 320×10^6 annually. That is less that $5/family/year. Yet for the past 5 years NICHD's ability to provide funds for new grants submitted by biomedical and psychological investigators has declined from 39% funding of approved grants to a low 28%. This means that more than 70% of the good proposals (i.e. ideas or research approaches that were approved by the peer review system) are not receiving support.

One of the hallmarks of our society has been the supposition that good ideas will not be lost. The very success of America has been its responsiveness to new concepts. We now stand on the verge of losing our effectiveness both in the encouragement of the creative enterprise and the

training of new scientists. Research activity as it relates to child health is not independent of the broader scientific efforts.

The needs are tremendous, and paramount at this time is need for replacement equipment. Most of the equipment was purchased more than 15 years ago. Because of the level of funding of projects, most investigators have been using old and outdated equipment. Because of a lack of commitment to a strong biomedical research program in Pediatrics, we have not been able to periodically update our instrumentation which is a vital part of our ongoing productivity.

Most critically the trend toward decreased support has had a seriously crippling effect on the development of physician/scientists. At a time when new technology and excitingly different research strategies are being developed, the Federal government is decreasing its involvement in the the biomedical research effort and it is sending a very chilling message to young investigators, especially those with medical degrees. To produce a good physician/scientist requires 5 to 7 years of intense training after medical school, and it is not difficult to understand that we are not going to develop this much needed talent, if we cannot assure them that they will have a reasonable opportunity of being supported. At the present time the paucity of clinical scientists is being offset by the participation of basic scientists like myself in clinical research. But there is a definite need for physicians with research training because they represent a link to the patient.

National health like national defense is good for everybody and the scope of biomedical research is too large to fit within the confines of the private sector. The government must provide the major funding for pediatric research because it alone has the capacity to take a comprehensive view. The private sector usually focuses on specific areas. It should also be recognized that

in addition to saving lives and improving the health of our nation, the research enterprise provides immediate economic benefits to our community in terms of jobs. Perhaps equally important are the related economic benefits that accrue from the development of new instruments and health care equipment. The private sector is aware that new research strategies results in innovative new technology, but it is often overlooked when we're considering the economic benefits of bio-medical research. Indeed the relationships between the child health scientist and the equipment/instrument supplier has become economically synergistic.

It is estimated that for every dollar invested in biomedical research, there is a return of 13 dollars to the community as a whole. Other studies reveal that discoveries first made in medical research laboratories provide the basis for non-health related products that contribute more than $40 billion annually to the gross national product. In many instances techniques and new advances that are first developed for infants and children are being translated into new industrial advances for manufacturing vaccines against diseases in livestock, or providing genetic techniques for developing better crops.

One of the most exciting areas of research is the new frontier of neurobiology. Our increasing understanding of the normal and abnormal maturation of the brain has greatly enhanced our ability to investigate fundamental questions of mechanisms at the cellular, neurointegrative and socio-behavioral levels of organization. Using state-of-the-art techniques, neurochemists, neurophysiologists, immunologists and neuroanatomists have made great strides in unlocking the secrets of how the brain works. Some of the knowledge has provided immediate benefits like the use of dilantin in the control of seizures or the use of lithium in control of manic/depressive

behavior. Much of the practical outcome has been closely connected to our understanding of how nerve cells "communicate". Our own laboratory is in the forefront of some of these studies and we were recently awarded a grant of $500,000 to continue our programs, but because of fiscal constraints we were told that our budget would be reduced by 12%. This is devastating to a program that was based upon a bare bones budget. Which part of our integrated unit should we cut? If we make the analogy between our program and the human body, then we can appreciate the horrendous decision that had to be made: Do we remove a foot; a hand; an eye or some of the organs? Any one of them would be less than 12% of the total body, but the loss of any of these would seriously cripple the body. Similarly a 12% cut to our program has seriously hampered our research efforts. Benjamin Franklin once said, "For the want of a nail, the battle was lost." We feel the same kind of loss.

The cost of doing research has almost doubled in the past ten years. An instrument that cost $10,000 in 1976 now costs $23,000. Chemicals have more than doubled during that period; however, the funds allocated to NICHD only increased about 35%. We are in the midst of an explosion of ideas and this has increased the number of research applications, but the actual number of new grants funded has remained essentially unchanged over the last five years.

Another major consideration of health care to infants and children is the dynamic shifts in social situations. More mothers are working. Prenatal and postnatal care is changing. The home-office linkage for caring has become an important factor. The increased use of outpatient facilities requires much more attention to prevention. However, we do not have the capacity to address these new public health concerns because of the imposed austerity. When we look at the small size of the investment compared to the benefits, we are being very penny-wise and pound-foolish.

I would be remiss if I didn't include in this statement some reference to the problem of AIDS. This is a grave public health problem and the news media has helped to create extensive public awareness around the issues. However, more than anything, the problem of AIDS has made us in the scientific community very aware of what we don't know about basic immunology. It can easily be proposed that our inability to treat and arrest this disease is a direct outgrowth of our lack of preparedness.

Drug abuse testing programs are gaining wide acceptance in today's society. The impact of the use of drugs has tremendous implications for infants, toddlers, and adolescents as well as the unborn fetus. The accuracy and reliability of these testing efforts will be a direct reflection of our technology. New and efficient techniques such as immunoassays or high performance liquid chromatography require continuing research refinement.

In summary, I simply recommend a doubling of funding for the National Institutes of Health and the National Science Foundation; this would result in the support of about 50 to 60% of the ideas that scientists have agreed are very worthwhile. The additional cost to the taxpayer would be less than $25/person, but the benefits would be enormous. If the return on the dollar is even one-fifth of the return that we have been experiencing, then it would be well-worth it.

The Ad Hoc Group for Medical Research Funding

Open Heart Surgery

"Replacement of damaged heart valves and coronary artery bypass surgery are now possible due to state-of-the-art surgical technologies developed in part through NIH-funded research."

A Proposal for Fiscal Year 1987

The Ad Hoc Group for Medical Research Funding

United by their concern for the vitality of the biomedical and behavioral research enterprise, a large and diverse group of organizations recommends that appropriations for health science be increased reasonably above Fiscal Year (FY) 1986 in the coming fiscal year. This document presents the rationale for this group's budget proposal for FY 1987.

Today, because there is a direct causal relationship between the work done in the nation's research centers and better health care, and because the Congress has recognized the benefits of increased investment in research, there is a revolution in the biological and medical sciences that is leading to the prevention and cure of countless previously intractable conditions. The pace of progress has placed the United States at the forefront of biomedical and behavioral research. Congress has demonstrated, through support of the NIH and ADAMHA, an acute understanding of the pace of research and the importance of a balanced research program.

In addition, the spinoffs of medical research are promising dramatic economic growth with concomitant benefit to the federal budget, the foreign trade balance, and the employment outlook. Biotechnology provides advances in human health, extraordinary possibilities for the industrial community, and the promise of reduced health care costs.

Yet this nation is confronted with a growing budgetary crisis engendered by years of deficit spending and the growing federal debt. Scientists join all other segments of our society in their concern that these trends be reversed. However, we do not believe that sharply decreasing our nation's investment in research and development is the way to accomplish this goal. R&D investment fuels our economy, provides goods and products that are urgently needed to reverse the recent decline in the U.S. trade balance for high technology products, trains the scientists who will provide the new ideas in the next generation, and improves the health and job productivity of the American people. The means must be found to permit our nation to balance its budget while continuing its R&D investment in our future.

© Ad Hoc Group for Medical Research Funding, 1986
Photos courtesy of National Institutes of Health

America's World Leadership in Medical Research and Biotechnology is No Longer Assured:

"Budgetary constraint is one thing, but manipulation without sensitivity to the consequences can destroy decades of effort to build a strong national biomedical capability."

Frank Press
President,
National Academy of Sciences
April, 1985

West Germany and Japan continue to have the highest percentage of GNP devoted to national civilian R&D expenditures. For 1985, the R&D/GNP ratio for both West Germany and Japan was 2.6 percent; for the United States, 1.9.

National Science Foundation
Science and Technology
Data Book, 1985

Federal funds available for the purchase of academic research equipment and instrumentation declined 78 percent between 1966 and 1983.

Science Indicators
National Science Board
1985

From 1973–1982, the U.S. proportion of science and technology in biomedicine remained constant; its share of science and technology in clinical medicine and biology steadily declined.

National Science Foundation
International Science and
Technology Update,
January 1985

The Japanese government has targeted biotechnology as a key technology of the future.

Congress of the United States,
Office of Technology Assessment,
January 1984

The U.S. trade surplus in high technology products, measured in constant dollars, fell by over 40 percent between 1980 and 1982.

Science Indicators
National Science Board
1985

Figure 1
U.S. trade balance[1] in high-technology and other manufactured product groups
Constant 1972 dollars[2]

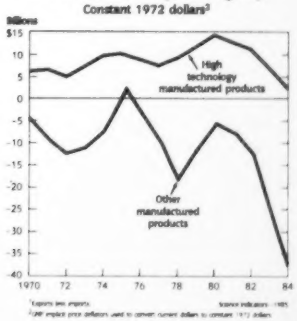
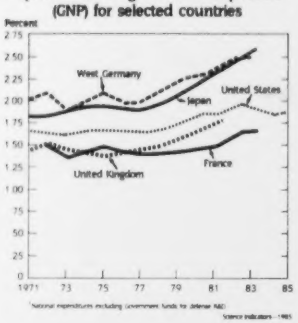


Figure 2
Estimated ratios of non-defense R&D expenditures[1] to gross national product (GNP) for selected countries



The National Institutes of Health 50 Years and $50 Billion

- sulfa for the treatment of streptococcal infections
- routine use of insulin for diabetes
- discovery of Rh factor in human blood, its role in infant deaths and Rhogam therapy to prevent hemolytic disease of newborns
- penicillin as the first practical powerful antibiotic
- streptomycin to treat and often cure tuberculosis, followed by stronger drugs
- synthesis of quinine to treat malaria in WWII
- discovery of the role of Vitamin K in preventing or treating excessive bleeding
- identification of Vitamin D deficiency as the cause of rickets, leading to its prevention by supplementing milk with Vitamin D
- cortisone for control of rheumatoid arthritis and a host of other immune diseases
- the heart-lung machine, which made open heart surgery possible
- the birth control pill
- cigarette smoking identified as the cause of 85 percent of lung cancers
- development of the Salk anti-polio vaccine
- liver extract to treat pernicious anemia and later discovery of its active ingredient, Vitamin B12
- discovery of the role of DNA as the molecular basis of inheritance
- use of laser devices in human surgery
- the artificial heart and heart valves
- the development of knowledge and techniques that permit transplantation of the heart, lung, kidney, liver and pancreas
- use of beta-blocker and calcium channel blocker drugs to relieve angina
- influenza vaccines
- the advent of genetic engineering, which enables us to produce human gene products in the laboratory
- the development of coronary bypass surgery for atherosclerotic heart disease
- systematic vaccination of children against diphtheria, whooping cough, tetanus, mumps, measles, rubella, haemophilus meningitis and polio
- effective treatment to cure early syphilis
- adaptation of sonography from submarines to medical diagnosis, especially of fetuses
- dialysis to compensate for previously fatal kidney failure
- the use of radiation and drugs as well as surgery to cure cancer

was Established in 1937. has Produced:

- Surgical and bioengineering technology enable us to provide freedom of movement for 200,000 bedridden or chairbound Americans each year through implanting new hips, knees, shoulders, wrists, elbows, and ankles.
- The death rate from bacterial infections has been reduced from 25 percent to less than 3 percent.
- Electronic pacemakers have been developed which control heart beat, preventing fatal arrhythmias, control breathing in persons with diaphragm paralysis, and may soon be able to control bladder function in 2.5 million paralyzed Americans.
- Insulin deficient diabetics can be treated with pure human insulin produced with recombinant DNA techniques; insulin can be administered continuously through a portable pump; transplantation of healthy pancreatic tissue to restore insulin production is being tested, and the relationship of viral infection to pancreatic destruction is being unraveled and may lead to a vaccine to prevent diabetes.
- Mental illnesses, once poorly defined and somehow shameful, have been recognized as real illnesses that can be treated with a modern armamentarium of psychoactive drugs, bringing immense relief to individuals suffering from these diseases.
- Over 200 of the 3000 described genetic diseases can now be treated because we understand their basic cause and can compensate for the damaged gene product.
- New epidemics of infectious diseases such as Legionnaire's Disease, Toxic Shock Syndrome and AIDS have been discovered, their causative agents rapidly identified, and for each in turn an effective prevention or treatment has been rapidly devised and made widely known.
- Modern medical techniques permit us to open clogged arteries with balloon catheters, reattach retinas with lasers, repair knee joints through tiny incisions using the arthroscope, dissolve kidney stones with sound waves, reattach severed limbs, and maintain human life in the face of failure of any organ except the brain.
- More than half of burn victims suffering 60 percent body burns now survive because of careful management of fluid loss and infections and the recent development of artificial skin.
- The biologic and genetic basis of addictive disorders such as alcoholism, smoking, and drug abuse is being clarified and will lead to the development of effective therapies to release people from the bondage of addiction.
- Treatment of breast cancer has progressed from mutilative surgery as the only option to the use of limited surgery plus radiation. At the same time, chemotherapy has increased the survival rate for the 34,000 women afflicted yearly with this common female cancer.

Premature Infant

The outlook for a premature baby born in the 1980s has dramatically improved compared to a premature baby born 50 years ago. Life saving medical research and technology not only can help the newborn infant survive the first crucial months of life; they also allow him to grow to maturity and lead a healthy, prolonged life.

Why Federal Investment in Medical Research Must Be Increased

"If you are looking about for examples of things that government can do, and do beautifully well, rest your eyes on the NIH. The existence of this institution in its present form owes much to the political leaders in and out of Congress, whose wisdom and statecraft put it in place."

Lewis Thomas, M.D.
Lasker Foundation Awards
1986

- 855,000 Americans are diagnosed *each year* as having some form of cancer; about half will die of the disease.
- 3.5 million Americans are disabled by stroke or other injuries to the central nervous system.
- 2 million elderly Americans are afflicted by Alzheimer's disease.
- 60 million people suffer from cardiovascular disease.
- 16 million Americans have developed osteoarthritis.
- 11 million people in this country are diagnosed as having diabetes.
- 100 million Americans suffer from some form of digestive disorder each year.
- One of three babies born in 1985 will develop cancer during its lifetime.
- 100,000 Americans will die this year as a result of allergic and infectious diseases.
- 2.5 million new cases of gonorrhea and over 80,000 new cases of syphilis develop each year in the United States.
- 62,000 people each year become blind. At any one time there are over a half a million blind people in America.
- 24 million Americans in any given month are afflicted by psychiatric disorders.
- 4,000 infants died in 1981 in this country as a result of respiratory distress syndrome.
- 7 million visits to physicians' offices due to blood diseases were made in 1979 alone.
- 15 million Americans suffer from chronic lung disease.
- Over 200 million Americans have at some time contracted a dental disease.
- About 2 million children in this country have mental disorders so severe they require immediate care.
- 17 million hearing impaired persons live in the United States.
- 300 million people worldwide are afflicted with malaria; each year 1 million will die of the disease.
- Each one of the approximately 240 million Americans will at one time or another suffer a disorder of the endocrine system. Endocrine diseases range from osteoporosis to diabetes and include hypertension, hormonal dysfunction, growth and development disorders.

Ad Hoc Group for Medical Research Funding: A Proposal for the National Institutes of Health

FY 1986 Congressional Appropriation	FY 1987 Current Services	Ad Hoc Group FY 1987
$5.498 billion	$5.993 billion	$6.079 billion

This proposal brings the increase for the NIH into line with those requested by the President for science support in other agencies, excluding the larger increase for the Department of Defense (see Figure 3). It provides very modest program growth of about $86 million or 1.4 percent over a current services budget (which includes $15.6 million for nursing programs recently transferred to NIH).

The FY 1987 Ad Hoc Group proposal for NIH provides funds sufficient to support research activities at levels provided for by the FY 1986 congressional appropriation, with modest increases for a variety of important programs. Our proposal emphasizes the need for program balance at NIH with a diversity of support mechanisms and recognizes the multi-faceted mission of the agency — to conduct basic and applied research, train qualified promising investigators, and speed the transfer of life-prolonging and life-saving research and technology to the public. Our proposal also emphasizes the high degree of flexibility required in the management of NIH for the greatest effectiveness in the use of research funds, considering the substantial variations in the pace of research in different fields supported by the various institutes.

The Ad Hoc Group's proposal for NIH has been severely tempered by the stark realities of the current federal budgetary imbalance. The proposal does not, therefore, advocate optimal funding for NIH; substantial additional funds could be efficiently deployed immediately over a wide range of activities.

The Ad Hoc Group proposal for FY 1987 provides for:

- a current services dollar level for full funding at study section-recommended levels of competing and non-competing research project grants (approximately $3.4 to $3.6 billion).
- some growth in research career awards and funds sufficient to raise the current level of research trainees to that recommended by the National Academy of Sciences.
- needed upgrading and renovation of primate centers and outmoded and inefficient research laboratories.
- some additional funding for General Clinical Research Centers (GCRCs) to facilitate the conduct of clinical research projects and trials.
- a slight increase in the number of research centers: specialized/comprehensive, biotechnology, etc.

For the remainder of NIH's research activities — contracts, biomedical research support grants (BRSGs), minority biomedical research support, intramural research and full-time equivalent (FTE) personnel — we propose maintenance levels as established in the FY 1986 congressional appropriation.

Ad Hoc Group for Medical Research Funding: A Proposal for the Alcohol, Drug Abuse, and Mental Health Administration*

FY 1986 Congressional Appropriation	FY 1987 Current Services	Ad Hoc Group FY 1987
$366 million	$405 million	$465 million

The proposal for ADAMHA reflects the magnitude of the Agency's mission by providing necessary program growth over the FY 1986 level-of-effort. Our recommended funding levels are consistent with the recommendations of the Institute of Medicine of the National Academy of Sciences for a doubling of the ADAMHA research budget over the 1986 to 1991 period. This increase is necessary to achieve catch-up growth in the funding of mental health and addiction research. The FY 1987 current services budget of $405 million merely restores ADAMHA purchasing power for research and training to the constant dollar level of 1974.

The FY 1987 Ad Hoc Group proposal for ADAMHA allows funding sufficient to conduct biomedical and behavioral research activities at levels only modestly in excess of the FY 1986 congressional appropriation, with necessary increases for an array of critical programs. Our proposal emphasizes the need for program balance and recognizes the multi-faceted missions of the agency—to conduct basic and applied research, train qualified promising investigators, and speed the transfer of life-prolonging and life-saving clinical knowledge and technology to the public. Our proposal also stresses the high degree of flexibility required in the management of ADAMHA for the greatest effectiveness in the use of research funds, given its diverse research funding mechanisms. We urge ADAMHA to continue to use its multiple support mechanisms in recognition of the many ways in which excellent research can be organized.

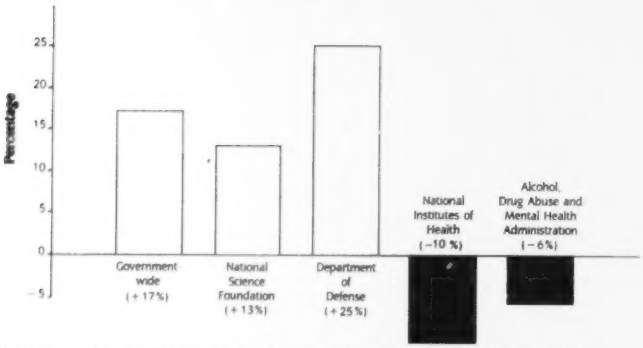
The Ad Hoc Group proposal for FY 1987 provides for:

- necessary expansion in the level of competing and non-competing research project grants with full funding at study section-recommended levels (approximately $243 million).
- critical growth in research centers (including sufficient funding for competing renewals); Research Scientist Development Awards (which particularly focus on establishing a pool of talented young investigators); and funds sufficient to raise the number of research trainees to that recommended by the National Academy of Sciences.
- needed renovation of outmoded research laboratories and equipment.
- necessary funds for the intramural programs to provide for replacement of obsolete equipment and to regain lost positions.

This proposal recognizes the extraordinary contributions of ADAMHA-supported research and would hasten the growth and refinement of new knowledge and clinical applications.

*Research and Research Training only

Figure 3
Federal Support for Research and Development
Percentage Increases
Fiscal Year 1987 vs. 1986
Obligations



Source: Budget of the U.S. Government, FY 1987 Special Analysis H. ADAMHA data adjusted to exclude Community Programs in accordance with stated congressional preference.

Figure 4
Percentage of Grant Applications Recommended for Approval by Council and Percentage Awarded, NIH, 1972–1986

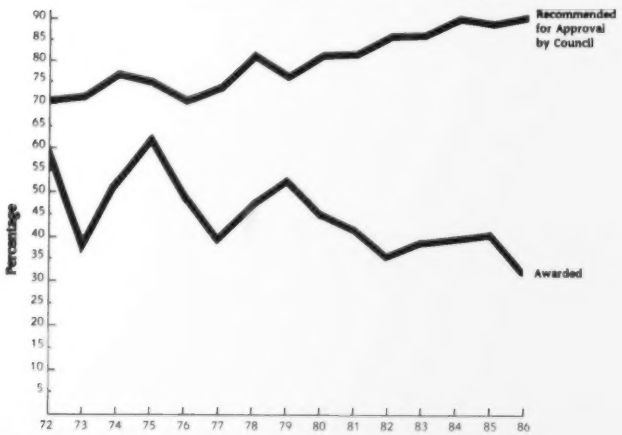
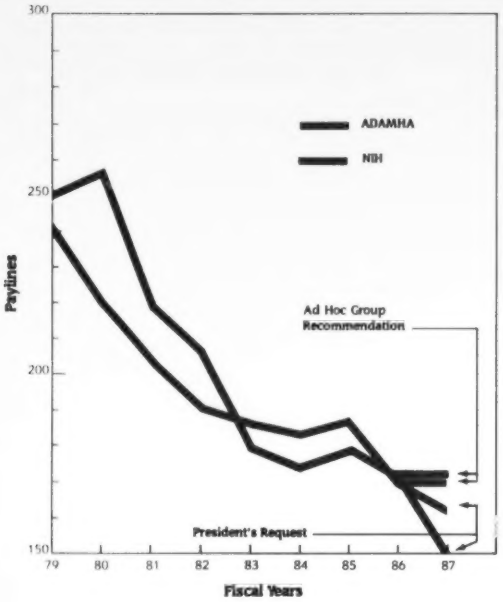


Figure 5

Paylines* for Funding Approved New and Competing Research Projects

FYs 1979–1987

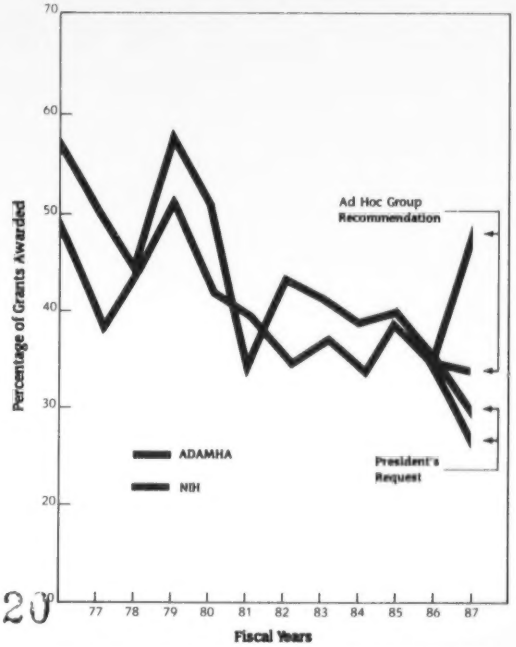


*In the NIH and ADAMHA merit review systems, the best proposals receive the lowest scores, and funds are awarded based on these priority scores. The "Payline" is the cutoff score or ceiling at which funds available for the fiscal year are exhausted.

Figure 6

Award Rates* for Funding Approved New and Competing Research Projects

FYs 1976–1987



*Award rates are the number of projects actually funded as a percentage of those approved and therefore eligible for funding.

Small Scale Chromatography

A scientist uses small scale chromatography, in which a protein produced by recombinant DNA technology is run through small columns of densely packed materials especially designed to purify the desired protein.

Reasonable Funding of Medical Research Would Enable Pursuit of Opportunities Such as:

- Further study of the body's main defense mechanism against disease, the immune system. Disorders of the immune system occur in allergic diseases, certain forms of arthritis, multiple sclerosis, chronic infections, blood disorders, and other diseases, and are believed to occur in over 30 million people at some time during their lives.
- Evaluation of LAK cell and interleukin-II therapy of solid tumors. Early trials have shown promising results against such treatment resistant metastatic cancers as melanoma and colon cancer.
- Efforts to develop effective vaccines against AIDS.
- Studies using a newly developed model of Parkinson's Disease in primates to devise new and more effective therapies for this movement disorder affecting 1 in 600 older Americans.
- Research to identify biologic clues in depression and mania, disorders which affect between 10 and 14 million people at any one time. Biologic clues are potential keys to explaining causes of depression, distinguishing among depressive patients, and selecting treatments best suited to their needs.
- Development of antibodies against the principal bacteria responsible for dental plaque and tooth decay. Although the incidence of tooth decay is declining, the average American child develops 11 cavities by age 17.
- Understanding how the clotting enzyme thrombin interacts in patients, which would provide important information on how the early events in clotting take place. This work has important implications for heart attacks, stroke and other abnormal clotting situations.
- Understanding how embryonic development is controlled genetically, which will provide valuable information on birth defects and malformations and perhaps how to prevent them.
- Use of monoclonal antibodies to treat cancer and to produce immune suppression for transplant recipients.
- Testing of plasmapheresis for treatment of Guillain-Barre syndrome, a form of ascending motor paralysis which follows viral infection in 2 per 100,000 persons.
- Development of drugs that might interfere with the release of cholesterol into the blood stream, thus reducing coronary atherosclerosis and the risk of heart attacks.
- Trials of an experimental herpes vaccine which has been successful in preventing development of latent herpes infection in mice.
- Development of effective prenatal diagnosis of cystic fibrosis based upon use of the genetic markers which have recently been identified near the cystic fibrosis gene on chromosome 7.
- Identification of the mode of genetic transmission in schizophrenias and affective disorders.
- Continued long term testing of hundreds of new drugs and chemicals introduced into our bodies and the environment annually.
- Identification of the biological mechanisms involved in susceptibility to alcohol addiction.
- Research to identify further causes of low birth weight, which is associated with higher infant death and developmental disability rates and occurs twice as frequently in black as in white infants.

Economics of Medical Research At a Glance:

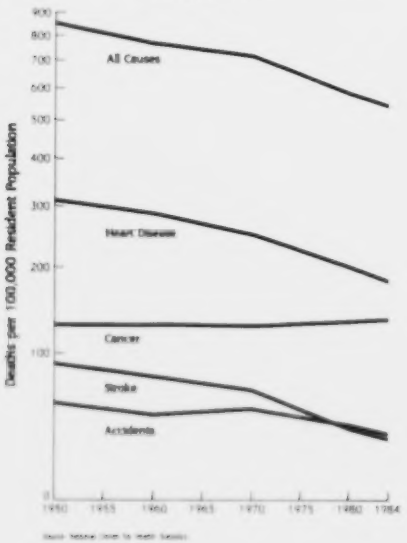
An overwhelming majority of Americans believe that "government funds for basic research should be increased by a sizable amount—even in this era of tight federal budgets and soaring deficits."

A Louis Harris Poll
Quoted in Science
December 1983

- Total health care costs in the U.S. for 1985 are estimated at $456.4 billion; federal investment in medical research is only 1.2% of this figure. Health care now consumes 10.8% of the GNP.
- The annual expenditure on health care in the United States is $2,000 per person. The annual federal investment in medical research to reduce this cost is only $25 per person.
- Studies show that the rate of return on every $1 invested in medical research is $13. Between 1900 and 1975, benefits exceeded the federal investment by some $300 billion in constant dollars, a seven-fold return.
- Over $40 billion is contributed annually to the GNP from medical research discoveries that are now used in non-health related products. This is more than the total federal investment in life sciences basic research over the past 50 years.
- More federal dollars are spent on the defense R&D budget in 15 months than the total spent on biomedical research since the establishment of NIH ($50 billion since 1937).

Figure 7

Mortality rates for the United States, for all causes of death and for four major causes of death, 1950–1984



Ad Hoc Group Proposal for the Year 2000

The NIH and ADAMHA are the flagships of our nation's biomedical and behavioral research effort. They are unique in the world. They provide leadership and quality control as well as funds for scientists in universities and independent laboratories throughout the nation, and their own laboratories produce some of our finest research. Their administration is non-political, professional and dedicated. To maintain this world leadership and to continue to pursue the goal of advancing knowledge to alleviate human suffering, federal support for biomedical and behavioral research must have three characteristics:

- It must be on a stable base of federal funding which enables scientists to plan for the future so that they can pursue long-term basic research projects. Such projects are high risk, without clear immediate payoff, but they have the highest likelihood of ultimately improving health.
- It must provide a stable program for research training to ensure that we continually invest in those superb young people who will provide the creative ideas for the next generation of research. The time line is long for the advanced training necessary to equip a scientist for the sophisticated research of the year 2000.
- It must provide program flexibility. Scientific activity continually identifies the next attainable horizon, as research proceeds from one discovery to another. The focus of support should be on talent and creativity rather than rigid priorities and precise directions, which must always be limited to what is already known.

A stable base of funding will be achieved when we have assured a steady supply of new creative researchers who enter productive careers; supported the best ideas they propose, as judged by merit review and award of the top 50 percent of approved grant applications; insured that retiring scientists are replaced to achieve a steady state; and provided proper equipment and facilities for this cadre of scientists to pursue their proposals. It is estimated that an optimal steady state will be achieved when the federal research effort is one quarter to one third larger in constant dollars than at present. Federal funding policy should be to increase the annual appropriations for both NIH and ADAMHA by 2–3 percent in real growth above the current services budget base for that year. Thus, the constant dollar budget base for each agency would be 25–35 percent greater by the year 2000 than at present. In this way we will fully unleash the creative potential of the biomedical and behavioral research enterprise.

Our reward will be the good health of not only our citizens but those of all the world, a vigorous industrial base in biomedical science and technology, increased productivity due to improved health of our workers, and the maintenance of our preeminence in health research.

Sickle Cell Anemia

Pictured above are abnormal elongated sickled red cells blocking the flow of blood in a capillary (normal red blood cells appear round). In recent years NIH has undertaken important research initiatives to develop prenatal diagnosis and effective treatment for sickle cell anemia.

Senator SARBANES. Thank you very much.
Dr. Davis, please proceed.

STATEMENT OF KAREN DAVIS, PH.D., PROFESSOR AND CHAIRMAN, DEPARTMENT OF HEALTH POLICY AND MANAGEMENT, THE JOHNS HOPKINS SCHOOL OF HYGIENE AND PUBLIC HEALTH

Dr. DAVIS. Thank you, Mr. Chairman, for the opportunity to appear today to discuss the long-term consequences of a reduced Federal commitment to child health programs, and the research necessary to guide public policy affecting the health of children.

You've heard excellent testimony this morning on the problems of health-poor children and pregnant women and particularly the problems of low-income children and pregnant women. So I think what I would like to focus on in my oral statement are two points. First, the importance of the Medicaid program in improving access to health care for low-income children and pregnant women, and second, the need for research on the health services, not so much the biomedical research that Dr. Tildon has touched on, but on the economics, the financing, the access to care, the efficiency of care for the services that are provided.

Medicaid has been instrumental in improving access to care for millions of poor and near-poor children and mothers. We have about 8 million children and about 800,000 pregnant women who are covered under Medicaid. This is a program that came in the mid-1960's and, since that time, we have seen a halving of the infant mortality rate, even though in the decade before Medicaid came in, there was actually no change in the infant mortality rate.

We know that this program has been very important in improving access, particularly to physician services, that it has greatly increased the access to physician care among low-income children.

It's also increased the proportion of pregnant women that get care early on in their pregnancy.

When we look at statistics today, we see that children who are covered under Medicaid fare much better with regard to access to health care services than do poor children left out of Medicaid.

And the main point I want to stress is that Medicaid simply does not cover all low-income children and pregnant women. In fact, it covers only about 40 percent of the poor. There are only 6 million children in families with incomes below the poverty level who do not have Medicaid.

We have these gaps in coverage really for two reasons. The Medicaid program only covers certain types of low-income people. So it's a very rare situation where you'd have two-parent working poor that would get covered under Medicaid. And the other reason is that each State sets their own income eligibility level. And that varies tremendously. There are really only 12 States that have an income eligibility level for AFDC and thus, for Medicaid, in excess of 60 percent of the poverty level.

In Maryland, it's 43 percent of the Federal poverty level and in Alabama, it's 15 percent of the Federal poverty level.

So you can have an income of $120 a month for a family of three in Alabama and not be considered poor enough to warrant coverage under AFDC or under Medicaid.

As Ms. Rosenbaum pointed out, the early 1980's have been a period of rapid increases in poverty among children, but a time of cutbacks in insurance coverage. There has been a cutback in private insurance coverage because of the recession in the early 1980's and the high unemployment and also because of the trend toward increased payments by employees that employers require.

But there's also been the cutback in Medicaid that came in 1981, with the dropping of many of the working poor from AFDC. I intended to give you a figure, and I'll make sure you have it, that shows this tremendous spread between 1980 and 1984 in the number of poor children and the number actually covered by Medicaid.

In 1984, you had about 17 million children with incomes below 125 percent of the poverty level and only 9 million covered by Medicaid.

But Congress has taken a couple of important steps to expand Medicaid coverage and I think that's particularly gratifying. We found in the Deficit Reduction Act of 1984 and the Consolidated Omnibus Budget Reconciliation Act of 1986 that it mandated coverage of pregnant women, infants, and children up to the age of 5 eventually in families with incomes below State income standards.

So with these new provisions in the 1984 and the 1986 legislation, every State will be required to cover all pregnant women and eventually all children up to age 5 if their incomes are below the State income level; that is, the 43 percent of poverty, for example, in the State of Maryland.

So that it's no longer a function of whether you're on welfare or not on welfare, a two-parent family or a one-parent family.

But there's an extremely important provision currently before Congress. The Senate Finance Committee, as part of this current budget reconciliation bill, has provisions that would, on a voluntary basis, permit the States to cover any pregnant woman or any child up to the age of 5, or any elderly or disabled person whose incomes are below the Federal poverty level.

So this would get at the issue of inadequate income standards at the State level for Medicaid, that it would be up to the State's discretion. But under this new provision, if it's enacted by the Congress, and as I say, it has been reported out by the Senate Finance Committee and also by the House Energy and Commerce Committee, would permit the States to cover every pregnant woman, every child up to age 5, up to the Federal poverty level. And they could do this without being required to extend AFDC or welfare support. It would give them the health insurance coverge under Medicaid.

I think that's a very important provision and I hope the Congress will move forward with that.

The final comments I wanted to make had to do with the need for research funding.

Dr. Tildon has very eloquently addressed the problems of biomedical research funding through the National Institute for Child Health and Human Development. But we also have a problem with inadequate funding for health services research.

It has been very important to have this kind of research to form the basis for the kinds of legislative changes, the swings back in the pendulum, that have occurred in the last few years. Many of the panelists this morning have cited the Institute of Medicine study finding that you save $3.40 in the first year of life for every dollar that you put into prenatal care.

The Southern Governors had a task force on infant mortality and drew on some of these research results to come out in favor of this type of legislative provision that the Senate Finance Committee has reported out.

So it's this type of research documenting the extent of the problem, what the consequences are, that has helped form the basis for these new legislative initiatives and, in fact, that led to having Medicaid and some of the other programs we've discussed like WIC exempt from the Gramm-Rudman-Hollings budget cuts because it was recognized that these programs are so important.

And I think it's very important that we continue this type of research funding to do further analyses of the impact of governmental programs such as Medicaid, the title V maternal and child health programs, and primary care centers on child health, to continue to analyze gaps in access to child health services and, in particular, to make sure that we have current data.

A lot of the data we use come from 1977 surveys and we simply can't get any defined or disaggregated data on what's happening to people with all the changes in the health care market place lately.

We also need more research on cost-effective ways of caring for children and more research that would look at measures of childhood functioning beyond just mortality. I think we focus on infant mortality and low birthweight because we have the data for those. We don't have data as readily available on various measures of morbidity, such as uncorrected vision, hearing loss, other types of conditions in childhood.

So when you asked the panel to set priorities, one doesn't know in detail the kinds of health problems that children ages 5 to 18, for example, are having. We just don't have those as well documented.

Finally, we don't have good research or statistics on a State level basis. These new provisions in Medicaid, if they get adopted by the Congress, will permit the States to expand coverage up to the Federal poverty level, but it will be a legislative issue in each and every one of these States, and you do need data for each State on how many people are left out, what would be the consequences, what would be the costs, what would be the health impact of having this expanded coverage.

But the funding for health services research that looks at these types of issues has even been more hit by budget cuts than the National Institutes of Health.

There are really two basic places that fund this kind of research. There's the National Center for Health Services Research and then the Health Care Financing Administration has an office of research and demonstrations.

Between those two places, they, in 1985, in money terms, spent $50 million on research.

Now we know from the statistics last week, that we're spending $425 billion on health care in this country. And to think that we're only spending $50 million on this kind of research for all of the Medicare, Medicaid access and financing issues just shows how inadequate it is. That's been cut in half in real terms over the last 5 years.

So the National Institutes of Health has managed to stay about even with inflation. But these sources of funding health services research have really dropped in half in terms of what the money will cover.

And I think that this is a period of such rapid change in the health care system, with the growth of HMO's, preferred provider organizations, prepaid managed care systems, cutbacks in insurance coverage under Medicare and under employer plans, that we simply have to have timely research on the consequences for health and health care of vulnerable population groups in a decent magnitude.

So I didn't try to estimate whether we need to double that or triple that, but it's certainly clearly inadequate. We just need some increased awareness of the importance of this type of research to provide information on our Nation's progress toward achieving health goals in this era of change and scarcity.

Thank you very much for the opportunity to participate.

[The prepared statement of Dr. Davis follows:]

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PREPARED STATEMENT OF KAREN DAVIS

CHILD HEALTH AND RESEARCH FUNDING

Thank you, Mr. Chairman, for this opportunity to appear before you today to discuss the long-term consequences of a reduced Federal commitment to child health programs, and the research necessary to guide public policy affecting the health of children.

Today, I will review some of the evidence on the importance of health care services for children, identify the major unmet health needs of mothers and children, briefly discuss the importance of Medicaid coverage for access to health care for poor children and pregnant women, and outline major areas of research that need to be pursued to investigate the consequences of inadequate access to health care and the most effective approaches to improving child health.

The Health of Low Income Children

Over the years, the United States has made significant strides in improving the health status of mothers and children. Much of this improvement can be attributed to better nutrition, sanitation, and general living conditions as well as increased access to more effective medical care. Infant mortality, one of the most easily measured indicators of health status, has

steadily improved over the past decades. In 1955, 26 infants died in the first year of life for every 1,000 babies born. In 1965, the year in which Medicaid was passed, the infant mortality rate stood at 25 deaths per 1,000 live births. By the early 1980s, that rate had been cut in half to 11 deaths per 1,000 births. Much of this progress directly parallels efforts to expand financial access to health care under Medicaid and to improve provision of care under the maternal and child health programs.

However, despite these gains, we remain a nation of contrasts. As the life span of the average American increases, some infants continue to die within the first year of life at inordinately high rates. As we develop increasingly sophisticated medical technologies, many children fail to receive the most basic preventive services. As we debate ways to contain health care costs, millions of children and pregnant women lack adequate financial resources to purchase care.

In 1980, one birth in 20 was to a mother who received prenatal care after the seventh month of pregnancy or in some cases who delivered without any prenatal care at all. Women in low income families are 50 percent more likely to receive no prenatal care or late prenatal care than their more affluent peers. Teenage mothers are less likely to get care early in pregnancy than older mothers. Delay in obtaining prenatal care is also more common among blacks than whites; in 1980 77 percent of white pregnant woman and 59 percent of blacks received

prenatal care in the first trimester of pregnancy.

The proportion of low birth weight babies is much higher for mothers who do not receive prenatal care. Nearly 7 percent of all births are low birth weight babies weighing less than 2500 grams. For women without prenatal care, 22 percent of all babies born are low birth weight with 7 percent of babies to women without prenatal care weighing less than 1500 grams. Black infants are twice as likely to be born with low birth weight as white infants. A recent Institute of Medicine report found that for every $1 invested in prenatal care for poor women, $3.40 of savings were generated in the first year of the infant's life from reduced hospitalization costs.

These statistics are especially troubling since we know the health care received during pregnancy and early childhood influences the child's health throughout life. Early prenatal care is essential so that conditions such as hypertension, diabetes, and iron deficiency anemia can be diagnosed early and brought under control. Without such intervention, premature births with resultant mortality or physical and mentally handicapping conditions will occur with high frequency. Adequate medical care in the first year of life is also important to provide prompt medical attention for gastrointestinal, respiratory, or other disorders that can be life threatening for vulnerable infants.

Throughout childhood, low income youths continue to face health problems, some of which may result from inadequate

prenatal and infancy care. Poor children are more likely than nonpoor children to suffer from low birthweight, congenital infection, iron deficiency anemia, lead poisoning, hearing deficiencies, functionally poor vision, and a host of other health problems amenable to medical intervention. Poor children are more likely to become ill, more likely to suffer adverse consequences from illness, and more likely to die than are other children.

The National Health and Nutrition Examination Survey shows the proportion of children with significant abnormal findings on examination increases as family income decreases. Children who are poor are 75 percent more likely to be admitted to a hospital in a given year and when admitted, stay twice as long as nonpoor children. These medical limitations also affect other aspects of poor children's lives. Poor children have 40 percent more days lost from school than children in non-poor households.

Medicaid Coverage for Poor Children

Medicaid has been instrumental in improving access to care for millions of poor and near poor children and mothers. In 1982, 8 million children and 800,000 pregnant women received needed health care services as a result of Medicaid coverage. Through Medicaid, more of the poor receive medical care early in pregnancy. In 1963 prior to enactment of Medicaid, only 58 percent of poor women received care early in pregnancy. By 1970,

71 percent of poor women received early prenatal care.

The best single measure of the extent to which the poor have gained access to care under Medicaid is the utilization of physician services. That is, to what extent has Medicaid enabled the poor to see physicians as frequently as the average American with similar health problems? Dramatic gains in access to physician services by the poor have been made over the last 20 years. In 1964, the poor saw physicians an average of 3.9 times per year while the nonpoor visited physicians 4.8 times per year despite the fact that the poor were sicker and needed more health care than the nonpoor.

By 1977, this situation had been radically altered. The poor with insurance, notably Medicaid, saw physicians 4.2 times per year compared to 3.8 visits per year for the nonpoor. The uninsured poor, however, still lag considerably behind with 2.3 visits per year. Uninsured minorities fare the worse with only 1.5 ambulatory visits per year. However, when visits for the insured poor are adjusted for health status, even the insured poor have fewer visits than their nonpoor counterparts.

Thus, poor children, particularly those not eligible for Medicaid, still receive less care than nonpoor children. Sick day for sick day, poor children have fewer medical visits, but poor children with Medicaid coverage are better off than those without.

Nearly 6 million children in families with incomes below the poverty level are without Medicaid coverage. Less than 40

percent of children in poverty are covered by Medicaid. Of these uninsured poor children, 2 million live in families with incomes below 50 percent of the poverty level.

These gaps in coverage occur largely because States are not required to cover children living in two parent families under Medicaid and because state income standards for program eligibility are generally far below the poverty level. Currently, only 12 states have an AFDC income eligibility cutoff limits for Medicaid greater than 60 percent of the federal poverty level; 20 states have income eligibility levels between 40 and 60 percent of poverty; with the remainder of the states with income eligibility levels below 40 percent of the federal poverty level. Alabama, for example, has an income eligibility level of 15 percent of the federal poverty for a family of three. Maryland has an income eligibility level of 43 percent of the federal poverty level for a family of three, although it covers some medically needy families with incomes slightly above that level.

Cutbacks in federal financial support for Medicaid in 1981 and reduction in coverage of the poor under AFDC have resulted in a loss of Medicaid coverage for many poor children and pregnant women. The rapid rise in poverty among children in the early 1980s made this cutback in federal support particularly ill-timed. The gap between children in poverty and children covered by Medicaid widened markedly.

It is particularly gratifying, therefore, that the Congress has taken steps in recent years to expand Medicaid coverage for

poor children and pregnant women. Provisions in the Deficit Reduction Act of 1984 and the Consolidated Omnibus Budget Reconciliation Act of 1986 to mandate coverage of pregnant women, infants and children up to the age of 5 in families with incomes below state income standards were extremely important. This means that no longer will a pregnant woman or young child with incomes below state income eligibility levels will be denied coverage because both parents are in the home or because the family does not receive welfare. But these recent changes do not address the problems of coverage in states with income eligibility standards well below the federal poverty level. Therefore, I would like to commend the Chairman for his support of the provisions recently passed by the Senate Finance Committee as part of the Budget Reconciliation bill to permit states to expand coverage of Medicaid to all children under age 5, pregnant women, and elderly and disabled with incomes up to the federal poverty level. This would permit states to expand coverage under Medicaid, without requiring that they expand coverage for welfare income assistance. These are important steps to close the gaps in Medicaid coverage that are so important to assuring access to health care services for this especially vulnerable group of our nation's population.

Need for Research Funding

The reversal of the pendulum from cutbacks in Medicaid coverage to expanded coverage for those most at risk is extremely important. However, it is important not to be complacent about

these measures. The scarcity of resources and economic restraints are likely to be a persistent fact of public life. Any new expansion, whether at the federal or state level, will require rigorous justification and have to pass close scrutiny. Political support for recent Medicaid expansions was increased by the Institute of Medicine report on low birth weight infants and the report of the Southern Governors Task Force on infant mortality. Other research was instrumental in causing Medicaid and certain other programs assisting poor children to be exempt from Gramm-Rudman-Hollings budget cuts. Continued policy research efforts are essential to lay the groundwork for further action:

- Analysis of the impact of governmental programs such as Medicaid, Title V maternal and child health programs, and primary care centers on child health. Amazingly, even such basic facts as the impact of Medicaid on prenatal care and infant mortality have not been systematically collected and analyzed. Documentation of the impact of governmental intervention is essential, if expansions or renewed commitment are to be proposed. Research on preantal care and follow-up programs for high risk infants is particularly important.
- Analysis of gaps in access to child health services. Data surveys to document the gaps in access to health services need to be maintained on a more

current basis. Too often, we are using 1977 data when major shifts in the health care marketplace and insurance coverage have occurred in the early 1980s. These surveys need to be constantly analyzed on an ongoing basis. Existing data sources need to be improved, including ongoing linkage of birth records and death records, expansion of the Health and Nutrition Examination Survey to young children, and better information on pediatric care.

- o Cost effective ways of caring for children. In an era of constrained economic resources, new and better ways of achieving child health objectives at lower cost will always be in demand. Selective demonstrations and analysis of natural experiments that provide indications of high payoff approaches to child health are important.
- o Impact of inadequate childhood health care on functioning and morbidity. Motivating policy action requires some compelling evidence that intervention can and does make a difference. Maternal and child health is one of the few areas were solid evidence of high payoff exists. Yet, this evidence pertains primarily to prenatal_care, infant care, and immunizations. The importance of health services in reducing the prevalence rates of disability, improving childhood functioning, or reducing adolescent mortality is

less well studied and understood. New measures of health status for children need to be developed. Longitudinal studies of child health to link patterns of medical care and health outcomes need to be conducted. Initiating research to explore these issues is a high priority.

- State level analysis of child health coverage. As federal legislation is enacted permitting states to expand eligibility under Medicaid to all poor pregnant women and young children it will be increasingly important to have state-level analyses of gaps in health insurance coverage of the poor and estimates of the fiscal consequences of expanding Medicaid eligibility.

Funding for research, however, has been cut back even more severely than Medicaid and other public programs that improve the availability of health care services for poor children. In real terms, health services research supported by the National Center for Health Services Research/Health Care Technology Assessment (NCHSR/HCTA) and the Office of Research and Demonstrations of the Health Care Financing Administration (ORD/HCFA) has been cut drastically in real terms in the last five years. Combined funding of NCHSR/HCTA and ORD/HCFA has dropped from $39 million in 1980 (in constant 1972 dollars) to $21 million in 1985. During the same time period real national health expenditures increased from $130 billion (in constant 1972 dollars) to $172

billion in 1985. The frequency of data surveys and publication of reports by the National Center for Health Statistics have been cut.

In a period of rapid change in the health care system, including the competitive pressures faced by hospitals, the growth of health maintenance organizations, preferred provider organizations, prepaid managed care systems, and other alternative delivery systems, as well as cutbacks in insurance coverage under both public programs and private employer health insurance plans, timely research on the consequences for health and health care of vulnerable population groups should be a high priority. Increased awareness of the importance of research to provide information on our nation's progress toward achieving health goals in an era of change and scarcity is extremely important. Thank you for the opportunity of participating in this hearing.

Senator SARBANES. Thank you very much.
Dr. Kolb, please proceed.

STATEMENT OF MARVIN O. KOLB, M.D., PRACTITIONER IN CLINICAL PEDIATRICS, FARGO CLINIC, AND CHIEF OF STAFF, ST. LUKES HOSPITAL, FARGO, ND

Dr. KOLB. Thank you, Mr. Chairman, and distinguished members of the committee.

I'm Marv Kolb. I'm a prediatrician in Fargo, ND, and chief of staff of the St. Lukes General Hospital in Fargo, which is the largest hospital in the State.

I'm pleased to be here today as an advocate for children. I think your committee's keen awareness of the need to look at the long-term consequences of reduced Federal commitment to the health and safety of chlldren is particularly important. Children's needs cannot be compromised 1 year and picked up the next year without severe consequences.

Hence, I think this hearing is particularly timely.

American children do not have the same problems that children did 20 years ago because they're not the same children. Today's children are poorer relative to the rest of society. A fifth of them live below the poverty line and 21 percent of them live in single-family homes. Emergency rooms are becoming the chief source of care for these families who have lost Medicaid benefits and have no private insurance.

Attempts to assist children have been fragmented. They're sporadic and they take place in the absence of really some well-established sense of priorties.

Consequently, children really suffer disproportionately in times of fiscal cutbacks.

Basic problems persist and really, they discredit us all. If we use survival rates of the newborns as an indicator of how well a society cares for its most vulnerable members, regrettably, as you've heard this morning, our national mortality rate puts the United States 17th among nations with a population greater than 2 million.

With 3.6 million births in this country annually, as Dr. Sabin mentioned, 40,000 infants will die during their first year of life.

There are obviously short- and long-term strategies that leaders must initiate if progress is to be made. Many of these involve the obvious. Prenatal mothers must receive adequate care and nutrition. Further research must be provided and children must be immunized.

In short, all efforts to prevent avoidable deaths and disability among infants and children must be taken.

In the last few years, I've had the unique privilege of serving on the advisory council of the National Institute of Child Health and Human Development. My testimony today will focus on cutbacks in the area of research—one of the invisible cutbacks in the public eye—and how these cutbacks obviously will impact on the health and care of children. In the time allotted to me today, I'd like to highlight five areas—one, the low birthweight; two, teen pregnancies; three is injuries; four is vaccines; and five is mental retardation.

As a practitioner, I'm very well aware of the public health accomplishments such as the development of synthetic growth hormones, the development of new and safer vaccines, alternative methods of contraception. All of these have been made through the years of progress in biomedical research. But if we do not conduct clinical trials and studies, these basic findings will never be converted into practice and into healthier children.

With relationship to low birthweight—and you've heard much of this today, these are the babies less than 5½ pounds—it's a major factor which influences our infant mortality today. As stated earlier, the incidence is higher in the United States than in many developed countries. Low birthweight babies are likely to suffer many problems—handicaps, congenital anomalies, respiratory problems, vision, hearing. Also, the low birthweight babies are born in a disproportionately high number to real high-risk groups—the teenagers, the unmarried, the black, the poor, the women over 35, and women without a high school education.

We've done many things because through today's advance neonatal care, the intensive management has minimized the disability suffered to low birthweight babies in the 3½- to 5-pound range. Those babies whiz through nurseries and have 90 percent survival rates and are good outcome babies. But the very low birthweight, as you heard defined, less than 3½ pounds, they require long terms of intensive care and the annual cost is over $4 billion a year to care for these babies.

These babies under 3½ pounds suffer high disability and death rates. The handicap rate of the very low birthweight has been estimated at 50 percent by school age.

The respiratory distress syndrome, the old Hyaline membrane disease, is a very common life-threatening condition in these babies. And an example of what has happened in the laboratory, the test tubes in the lab and how it's moved to the incubator and the nursery is that researchers today have identified that these premature babies have an insufficiency of an agent called surfactant. And through research today, they've brought trials presently going on on surfactant. It's been obtained from calves. And hopefully, through genetic engineering, a human product will be developed.

This is a good example of how, again, by basic research, we are about to make a major advance in the treatment of a disease.

As a result of these cutbacks in 1986 and further in 1987, researchers are going to be unable to develop new knowledge to better understand prematurity and infant growth retardation, interuterine growth retardation, which are the two major factors which contribute to low birthweight.

Teen pregnancy. It's a tragedy. There are over a million births each year to teenage mothers, and even though contraception is widely available, teenagers don't use it or they use it ineffectively or they use it inconsistently.

We need to find out more about the behavior and the social factors and we also need to have effective contraception. It has to be safe. It has to be effective. It has to be inexpensive. It has to be easy to administer. And it has to be acceptable to all population groups.

I see these children in my practice. It's in North Dakota like it is in Maryland. These are children having children. These are children raising children. And it is a tragedy.

I'd like to speak about injuries. Injuries are a real concern to me. If I can give you a figure, that between the ages of 1 and 35, more people die from injuries than from all other diseases combined—between the ages of 1 and 35. Half of the deaths between 1 and 14 and between 75 and 80 percent of the deaths between 15 and 25 are from injuries.

I'm saddened to see children maimed and dying from things that, maybe through research and intervention, possibly could be prevented. There's 100,000 children a year that suffer permanent disabilities from injuries. There are over 19 million children a year under 16 that are treated for injuries annually.

Prevention here is of paramount importance. It must involve both pediatricians and behavioral scientists.

Mr. Chairman, this is going to be a tough nut to crack. The causes are obvious and poorly understood. But our country has the minds and the technology to make an impact on this No. 1 killer in our society. I feel that it must receive a greater priority. It's only going to be through leadership, through your leadership, that appropriate direction and funding can be made in this area.

Vaccines, as we've heard so much today, are of vital importance to the maintenance of child health and development. It's through efforts of research in this area that we have in this country an effective immunization program. But even this effective program, which is the basis of preventive child health services, is in jeopardy.

Vaccine prices have soared and, as we heard owing to the insurance and liability costs, to fully immunize a child today has increased eightfold in 4 years.

We need to solve this problem.

And finally, with mental retardation. It's a lifelong problem and a major health problem and a social issue with multiple causes that require study of a full range of developmental variables.

Mental retardation affects millions of Americans and leads to annual public expenditures of billions of dollars. Budget cuts have had severe effects in mental retardation research. Mental retardation centers, augmented by some university-affiliated centers, such as the Kennedy Institute here at Johns Hopkins, had planned several clinical trials for new interventions to treat and ameliorate mental retardation.

Budget cuts this year will prevent this. In addition, many of the exciting new leads in genetics, in molecular biology and neurobiology will not be funded.

Research benefiting infants and children, Mr. Chairman, stands at an important crossroads. If we're farsighted, we can take advantage of the recent developments. We can build upon them. I think if we continue to strive toward increasing our infant survivability, we need to ensure a treatment for children with cancer. We need to reduce the risk of cancer because one out of every three babies born in 1985 will develop cancer in its lifetime. So this is not just a child issue. This is a society issue. It's a health issue.

We need to improve treatments for diabetes, for arthritis, for cystic fibrosis, and other debilitating diseases. And we need to provide hope for the families of the 2 million children who have severe mental disorders that require care.

If we choose to hestitate, we will see children suffer.

Mr. Chairman, I hope I've given you a little insight into what we, as the Nation, are capable of accomplishing. As a citizen, I'm keenly aware of our Nation's economic problems. I also know that we must be prudent and practical about our budget priorities. Yet, I must question our priorities. We're spending billions of dollars on care when we should be spending millions of dollars on preventive activities.

Today, I've asked you to step up research efforts to eliminate low birthweight, to reduce teen pregnancy, to promote a safer environment, to reduce the toll of injuries on our society, to develop new and safer vaccines, to ameliorate mental retardation.

In essence, sir, I'm asking you to put me out of business as a practicing pediatrician. I realize that these comments and suggestions are ambitious, but I do not think that they're impossible goals for our society.

I thank you for the opporunity to be here today.

[The prepared statement of Dr. Kolb follows:]

PREPARED STATEMENT OF MARVIN O. KOLB, M.D.

Mr. Chairman, my name is Marvin O. Kolb, M.D., a full time practitioner in clinical pediatrics at the Fargo Clinic and Chief of Staff at St. Lukes Hospital in Fargo, North Dakota. I am a Fellow of the American Academy of Pediatrics and a member of the National Advisory Council to the National Institute of Child Health and Human Development at the National Institutes of Health. I am pleased to be here today as an advocate for children and child health and safety from the perspective of a busy pediatrician.

The Committee's keen awareness of the need to look at the long-term consequences of a reduced Federal commitment to health and safety programs is particularly important with respect to children. Their needs cannot be compromised one year and picked up the next without severe consequences. Hence this hearing is particularly timely.

With more and more solid information available now on the vulnerabilities of children, especially babies, it is unimaginable that members of Congress would sharply diminish their support for federal initiatives which help address these serious maternal and child health problems. Indeed, after five years of belt-tightening, increased attention and bold innovation are all the more necessary.

American children today do not have the same problems as children had 15 or 20 years ago because they aren't the same kind of children. Today's children are poorer, relative to the rest of society, than children of the 1960s were. One-fifth of U.S. children live below the poverty line and 21 percent live in single-parent households. Emergency rooms are becoming the chief source of care for families who have lost Medicaid benefits and have no private health insurance. Hence, attempts to assist children are fragmented, sporadic and take place in the absence of an overall context or well-established sense of priorities. Consequently, children suffer disproportionately in times of fiscal cutbacks and program consolidation. It is important to appreciate the uncertain position of pediatric programs in 1986 because it is from here that we enter a new era of sweeping change in our health care system.

Basic problems persist, and they discredit us all. The survival rates of newborn infants serve as an indicator of how well a society cares for its most vulnerable members. Regrettably, our national infant mortality rate for 1984 was 10.6 deaths per 1000 live births, ranking the United States only 15th among nations having a population greater than 2 million. With approximately 3.6 million births in this country annually, nearly 40,000 infants will die during their first year of life.

It is therefore of profound concern to pediatricians that current national policy has been but marginally effective in reducing the proportion of LBW infants. The decrease in the incidence of LBW deliveries from 7.7 (per 1000) in 1960 to 6.8 in 1983 represents only a 14-percent decline. (Post neonatal mortality, deaths from 28 days to one year of age, accounts for the remaining 30 percent of infant deaths -- and fully 20 percent of these deaths occurs among former LBW infants. The remainder are related to environmental conditions and infectious diseases. Sudden Infant Death Syndrome accounts for 33 percent; infections, 10 percent; accidents, 7 percent.)

There are short-term and long-term strategies that leaders must institute if progress is to be made. And many of them involve the obvious, e.g., prenatal mothers must receive adequate care and nutrition; further research must be promoted; children must be immunized. In short, all efforts to prevent avoidable deaths or disabilities among infants and young children must be taken.

My testimony today will focus on cutbacks in the area of research -- one of the most "invisible" cutbacks to the public eye -- and how they will impact on the health and well-being of our children. Since my professional experience has been focused at the NICHD, I will highlight important research efforts there and how budget reductions will effect them.

Recent public health accomplishments such as the development of synthetic growth hormone, the development of new and safer vaccines for childhood illness, and alternative methods of contraception have been made possible through years of basic biomedical research. If we do not conduct clinical research studies, these basic findings will not be converted into healthier children.

I am concerned that a lack of funds for the National Institute of Child Health and Human Development and other Institutes of the NIH (this Nation's world-renowned resource for biomedical research located in this state) will arrest progress in combatting infant mortality, this Nation's single most important child health problem, as well as a host of others of major importance.

Low birth weight (LBW) (less that 5.5 lbs.) is the major factor influencing infant mortality in the United States today. And as stated earlier, the incidence of LBW is higher in the United States than in many developed countries. LBW infants are more likely to suffer neurodevelopmental handicaps, congenital anomalies, respiratory problems, vision and hearing disorders and a multitude of other conditions. LBW infants are born in disproportionate numbers to high-risk groups such as teenagers, unmarried women, the poor, black women, women over 35, and women without a high school education.

Today's improved neonatal intensive care minimizes the morbidity suffered by LBW infants in the 3.5 to 5.5 lb. range, but Very Low Birth Weight (VLBW) infants weighing less than 3.5 lbs. require long periods of intensive care and experience the highest mortality and morbidity.

The impact of LBW on society is profound. Two-thirds of all infant deaths occur among LBW infants; most of these are VLBW. The poor U.S. international ranking in infant mortality is due almost entirely to our higher rate of LBW. LBW infants require care in neonatal intensive care units (NICU's) for as long as four months. The annual cost of NICU care alone approaches $4.0 billion/year. Costs for physician services not billed through the hospital and caring for lifelong morbidity must be added to this figure. Infants in intensive care experience a high incidence of illness and complications as newborns and VLBW infants in particular have a markedly elevated incidence of lifelong handicaps including: mental retardation, cerebral palsy, seizures, learning problems, blindness, and deafness. The incidence of such handicaps in VLBW children is over 50% at school age.

Unfortunately, many of these handicaps resulting from LBW and/or prematurity, are non-reversible and the victim and the victim's family spend a lifetime coping with his or her life. Respiratory distress syndrome, characterized by lung immaturity and caused by an insufficiency of a substance, surfactant, which lines the airspaces and prevents lung collapse, is a common cause of illness of premature infants. Investigation is in process to determine if administration of this substance, which has been obtained from calves and may soon be available through genetic engineering techniques, may provide successful treatment of respiratory distress syndrome. This is indeed promising research for those of us dealing with these infants.

Beginning in 1984, the NICHD assigned the highest priority to the conduct and support of a special research initiative on the prevention of low birth weight in infants. The importance is underscored by the selection of low birth weight prevention as one of the "1990 Objectives for the Nation" and its selection by the Institute of Medicine in 1982 as the subject for a comprehensive study by an interdisciplinary committee to examine the many factors that contribute to low birth weight.

As a result of budget cuts in 1986 and further cuts contained in the 1987 President's Budget, the NICHD will be unable to implement many of its planned research efforts to develop new knowledge to better understand prematurity and intrauterine growth retardation, the two primary efforts needed to prevent and ameliorate the problem of LBW.

A problem closely related to that of LBW is childbearing by adolescents (one of the groups at high risk for having LBW infants). Adolescent childbearing is recognized as a leading health and social problem in the United States. Current research focuses on various determinants and consequences of adolescent pregnancy and childbearing.

Given the large number of teenage pregnancies each year (approximately one million), and the inherent risks associated with such pregnancies to the health and welfare of mother and baby, research has addressed the causes of these early pregnancies. Although contraception is widely available, many sexually active teenagers appear to delay its use, to use less effective methods, and to contracept less consistently than adults. To find out more about the behavioral and social factors resulting in less consistent and effective contraceptive use among teens, more emphasis was placed on research on these factors. Budget cuts will impede the funding of this research. We must have an array of methods that are safe, effective, inexpensive, easy to administer and acceptable to various population groups.

Recent surveys show a close relationship between the health of the baby and whether or not the mother wanted to become pregnant. Not surprisingly, women with unwanted pregnancies report that they first obtain prenatal care later in pregnancy than those who wanted to become pregnant. Furthermore, among the births resulting from unintended pregnancies in the U.S. during 1979-82, the prevalence of low birth weight was significantly greater than among planned births. Thus, efforts to help couples avoid unintended pregnancies will complement and enhance the Institute's efforts to reduce the incidence of low birth weight.

Another major area of importance is injury and accident prevention, which is of particular interest to me. Annually, 19 million children 15 years old or less receive medical care for an injury. A study estimated that in the toddler age group, one child in ten was treated in a hospital emergency room for injuries or poisonings. Epidemiologists have also estimated that injuries incapacitate two million children annually for two weeks or longer. Further, at least 100,000 children each year suffer permanent disability as a result of injuries.

Once infancy is past, injuries, not disease, become the leading cause of death and disability. In this field, prevention is of paramount importance. Preventive approaches involve both pediatrics and the behavioral sciences. For example, studies the NICHD has supported have developed and demonstrated the effectiveness of pediatric office-based interventions to have parents use car seats and seat belts for their children, and lower their home hot water heater settings to prevent scalding. To expand this research, the Institute last year issued a special solicitation for research grant applications on behavioral approaches to injury prevention which invited scientists to submit proposals seeking to clarify the behavioral and environmental variables responsible for specific kinds of childhood injuries; to identify and measure observable behaviors of parents and children that are precursors of injury occurrence or injury avoidance (i.e., behaviors closely linked to injury morbidity and mortality); and to identify environmental conditions modifiable by parents or children which lead to injury or injury reduction. The solicitation also addressed the need for development of experimental models that explain, by use of analogy, the origins and continuation of risk-taking and safety behaviors, with a view toward developing effective intervention strategies.

With the budget cuts, the Institute will only fund one research project from those received from this solicitation, and a vital research planning conference in this area will be very limited in size and scope. The devastating and sometimes fatal injuries we see as practitioners only serve to reinforce our firm belief that more needs to be done in this area.

An area vital to the maintenance of child health is the development of new and improved vaccines. Exciting advances have been made by NICHD intramural scientists in the area of vaccine development. Whooping cough, typhoid fever, and meningitis due to Hemophilus influenzae are still responsible for illness, death, or permanent disability in many children. In the case of whooping cough, (pertussis), fear of side effects from the existing vaccine made from whole bacteria is inhibiting its use, resulting in an increase in the number of cases of this disease around the country. Intramural scientists of the NICHD recently have isolated and purified the single component of the pertussis organism that they believe is sufficient to produce an entirely safe and effective vaccine. They are about to start field trials of their new vaccine in Sweden, where without vaccine use pertussis has reached epidemic proportions.

These same intramural scientists have also been successful in developing new vaccines against typhoid fever and Hemophilus influenzae type B. The new typhoid vaccine, just entering field trials in India and Nepal, is inexpensive and is expected to have minimal side effects and to produce lifelong immunity.

Despite effective antibiotics, H. influenzae remains a serious cause of sickness and death in infants and is a leading cause of acquired mental retardation in this country. A recently licensed vaccine based on earlier work of these NICHD scientists is effective in older children but not in those under two years of age, the time of greatest risk. They have now produced a modified vaccine that has been successful in trials with infant monkeys, and the Institute would like to begin a field trial in human infants.

Budget cuts have affected the Institute's ability to continue vaccine trials already underway and to mount additional studies needed to complete clinical testing prior to general use.

It is the research efforts in this area that have resulted in the United States having such an effective childhood immunization program. But even this, the most basic of preventative child health services, is in jeopardy. Vaccine prices, owing substantially to insurance and liability costs, continue to soar. In fact, the price for vaccines to fully immunize a child has risen from $6 in 1982 to more than $50 today -- an eight-fold increase in four years. Prices in 1987 may rise another 50 percent. Unfortunately, while costs of immunization have gone up steeply, the budget for federal childhood immunizations has not. The number of children to whom the government can provide vaccine has declined by two-thirds. If the President's budget for 1987 were adopted by the Congress, states would be able to supply vaccine for still 400,000 fewer children.

As startling as these numbers are, they tell only part of the story. States, faced with skyrocketing vaccine costs, are being forced to lay off immunization workers, leaving clinics and medical-records work unstaffed. They are beginning to implement copayments for the poor, some as high as $15 per shot. And the President's budget proposes no funds for the yet incomplete vaccine stockpile, even though only a year ago we were forced to ration childhood vaccines in this country.

All of these problems are compounded by Gramm-Rudman. The first round of relatively shallow cuts eliminated funds for more than 65,000 children's shots. Every percentage point cut from 1987's budget will mean another 10,000 children without federal vaccinations. If present deficit forecasts are accurate, hundreds of thousands of children may be eliminated from the program.

Finally, I would mention the problem of mental retardation. Mental retardation is a lifelong problem and a major health and social issue, with multiple causes that require study of the full range of developmental variables. Mental retardation affects millions of American and leads to annual public expenditures (federal, state, and local) of billions of dollars.

Mental retardation is caused by a complex of biological, psychological, and social determinants: genetic factors, metabolic disorders, prematurity, or other disturbances during pregnancy, are a few. Infection or injury at birth or in early childhood may also underlie mental retardation. In addition, lack of stimulation, inadequate educational opportunities, and generally deprived living conditions may be causal or contributory factors.

Much of the Nation's research on mental retardation is conducted in a network of Congressionally established Mental Retardation Research Centers supported by the NICHD. Studies in the biomedical sciences supported by the Institute have led to interventions that are highly effective in preventing mental retardation resulting from a few of the many biological causes, such as congenital hypothyroidism. NICHD-supported studies applying the behavioral sciences to the much larger category of socio-cultural-familial mental retardation have suggested that early behavioral interventions may be effective in reducing the likelihood of mental impairment in high-risk infants and children.

Budget cuts have had a severe effect on mental retardation research. The Institute had plans to use the Mental Retardation Research Centers, augmented by some University-Affiliated Facilities (such as the Kennedy Institute at Johns Hopkins), to conduct clinical trials of new interventions to treat and ameliorate mental retardation: budget cuts will prevent this. In addition, many of the exciting new leads in genetics, molecular biology and neurobiology will not be funded.

Research benefiting infants and children stands at an important crossroads. If we are farsighted, we can take advantage of recent developments and build upon them. We can continue to stride forward towards increasing our infants' survivability, ensuring treatment for children with cancer, reducing the risk of cancer (one out of every three babies who were born in 1985 will develop cancer during its lifetime), improving treatment for diabetes, arthritis, cystic fibrosis, and other even more debilitating diseases, and providing hope for the families of the two million children who have severe mental disorders that require care. If we choose to hesitate, we will see children suffer.

Research for infants and children needs more than our moral support; it needs financial support. Endowment funds and private donations provide significant pediatric research support in only a handful of institutions and those foundations which provide specialized pediatric research are relatively small. Congress must be cognizant of the fact that most pediatric research funds come from the federal government, namely the National Institutes of Health. However, in 1983, the National Institute of Child Health and Human Development allocated only 11 percent of their research project grants and 17.1 percent of their funds to pediatric departments for research involving infants and children; most of the Institute's remaining funds went to maternal health and reproduction. Other Institutes contributing significantly to pediatric research include the National Institute of Allergy, Immunology, and Infectious Diseases (4.5 percent of its grants), the National Institute of Arthritis, Digestive and Metabolic Disease (3.1 percent of its grants), the National Heart and Lung Institute (3.2 percent of its grants), and the National Cancer Institute (1.4 percent of its grants).

The important role of the General Clinical Research Centers (GCRC) program of the Division of Research Resources within the portfolio of pediatric research must be noted and supported. Pediatric research places particular emphasis on clinical research providing the promise of direct benefit for infants and children. The GCRC program provides support for clinical research at 78 centers, 16 of which are devoted primarily, if not exclusively, to pediatric

clinical research. As of 1983 pediatric research accounted for 30 percent of the GCRC program budget, and 30 of the 100 graduates of the GCRC clinical associate physician program, a primary source for training physician investigators, have been pediatricians.

As a practicing pediatrician I have been concerned over one other threat to continued successful pediatric research -- the possible lack of the use of animals. Animal models are used only when necessary; other alternatives are employed where possible. However, if research programs were denied the use of animals, the only other living system available would be infants and children, and it is not logistically or ethically sound to be forced to make that choice.

Mr. Chairman, I hope I have given you a little insight into what we, as a nation, are capable of accomplishing. As a citizen I am keenly aware of our Nation's economic problems and I know we must be prudent and practical about our budget priorities. Yet I must question our priorities. Even during a time of shrinking budgets, it is shortsighted to decrease monies for research directed at preventing disability and death during the critical period surrounding infancy and the ensuing childhood years. Through your leadership, let us be far-sighted enough as a Nation to take advantage of these recent developments.

In conclusion, let me reemphasize that inferences must be drawn from our infant mortality rate which go beyond the immediate components of the measure, i.e., death to infants under one year of age, which speak to risks, needs and services for infants, children and young families. While this statement focuses on the role of research, many other federal programs influence infant mortality and morbidity and deserve attention and support. All play a role. One cannot be sacrificed for another. Changes in the measure of infant mortality and morbidity which can be sustained over time will not occur without diligent and continued attention to these several major influences on the health of this population.

As a society, we simply cannot afford the wastage of human resources in childhood and adolescence. As a pediatrician, I feel it is incumbent upon me to present to you in this context the opportunities we share to shape healthy and productive adults.

Senator SARBANES. Thank you very much. I want to thank all of you for some very helpful testimony.

Let me ask first whether you perceive a significant loss of people entering the research field. Are we facing a problem of that sort?

Dr. TILDON. Very definitely. As I indicated in my prepared statement, the training, the ability to train has been the first place where cuts have been taking place at the National Institutes of Health. But even more so, an attitudinal posture has developed within the scientific community, and that is, what is the point of going through such an arduous training period if, indeed, there are not going to be funds available at the end?

The message is becoming very, very clear, that very good ideas don't get funded. I sit on study sections where I almost cry when we talk about the cutoff peer review. They have a numbering system and in that numbering system, the higher the score, the more inappropriate.

It used to be that grants getting 250 would be funded. Now grants getting 165 don't get funded. That means that we have to almost do a lottery to choose what grants will get funded and what will not.

Senator SARBANES. Dr. Davis, do you have any comments?

Dr. DAVIS. I would just add to that, that I think the situation will get more serious in the future, that today, we give some indirect funding to biomedical research by the way we pay hospitals under the Medicare DOG prospective payment system. And we've built in an additional allowance for what's called indirect teaching costs. But that's being squeezed in and the administration has, in fact, recommended that it be halved.

So as that source of funding which is not only for patient care, but also goes to support biomedical research, gets squeezed, we could find our teaching hospitals in this nation in dire straits. And I think that that would also have an effect on interesting people about coming into the field.

Senator SARBANES. Dr. Kolb.

Dr. KOLB. I concur with that 100 percent. I think the issue of being able to fund not only exciting research by new people, but I think being able to allow the ability of a bright mind to have the opportunity to think and be creative in an environment that allows us research and exciting results from that research is something that is in great jeopardy.

I think you have a gentleman sitting next to you today that I think if he had been subjected to some of the things that have gone on in today's world of research, maybe we would not have the exciting events that have come from his work.

I think there are a lot of bright minds, as I sit on the council and see us fund a few years ago at 35, 40 percent, and now down in the teens that we fund, that there's a lot of exciting research out there that could do a lot to correct many of the ills of our society and many of the ills in the world today that are not being funded.

So it is a major concern.

Senator SARBANES. Do you think the current system under which the research is done is a pretty good system, or do you think changes ought to be made in the system?

I'm not addressing the money being put into the system, but the system itself.

What's your view on that question?

Dr. TILDON. I think, if I could answer that, the marriage between the Government and the universities via the National Institutes of Health has probably been one of the brightest ideas of our time in this country.

That took a lot of work to even get that done, to get that into place. Dr. Sabin indicated that for his work, that didn't exist. But it was efforts like his, I think, that helped to foster that.

So I'm saying, yes. First of all, it has a very good peer review system. There are many different aspects of checks and balances on the kinds of questions that are being asked, and scientists have all applauded it. Obviously, it's a rigorous one. But I think as it's in place and the level of autonomy that it has I think is very good.

Now, there is a balance to that because the kinds of things that people identify in the social arena as specific disease conditions need to be looked at by the Congress. And I know the debate Congressman Waxman and others have around this issue has been an important one.

But, by and large, I would not change the system because I do think it addresses the problems as they surface.

I mentioned AIDS, but I think that's a question of money, not a question of the nature of the system that had prevented the solving of the problem.

Senator SARBANES. Dr. Davis.

Dr. DAVIS. I think that the peer review system within the National Institutes of Health has helped safeguard the quality standards in the research. I think that's very good.

But I think what we've tended to do is to get a narrow focusing of research by splitting off different places in which different types of research are done. And what you find are important research areas that fall between the cracks. They're not the priority of any one institute and you don't get adequate funding for them.

The second problem that I see, thinking about it from just the research community, is that, increasingly, I see the need to wed the analytic skills of the clinical researchers, the physicians and the medical schools, with the analytic skills of economists, social scientists, that you'll find, for example, in public health schools. And it's very difficult to get the teams of researchers together. So if you have an economist who knows a lot about Medicaid and the way it's financed and the access issues, and if you have a clinician who knows what the implications of reduced access to care for health outcomes, if you put those teams together, you get very effective research.

And that's one of the things that falls between the cracks, that the biomedical research tends to get funded out of NIH and the more economic social science research out of the National Center for Health Services Research. And I think we're not doing what we could do to facilitate the types of team research, drawing on these different disciplines, that really would be helpful.

Senator SARBANES. Dr. Kolb.

Dr. KOLB. Living with the system in the last few years, I hope I'm coming to understand it. I think it's effective. It's very peer

review related. I think it's an excellent system. I hate to see, I guess, the organization tampered with.

The problem exists, of course, and the fact that there are areas which may not be addressed, some of the Institutes, of course, are disease oriented. Some, like NICHD, are children's health oriented. And if there are issues that are falling through the cracks, as Dr. Davis said, I would feel that those are coming there mainly because we have not allowed enough funding to exist for these organizations to address the issues that have come before them.

The research is there. The areas to be looked at are there.

Senator SARBANES. What are your views on research done by the private sector, first of all by the business community? How much of that is there and what are the prospects there? And then the other question is, by the nonprofit private sector.

Or has the cost and the scope of it all—well, why don't you answer the question. Then I may follow up.

Dr. DAVIS. I think in terms of the business community, that they do do a fair amount of their own research but it's primarily on a medical equipment, for example, type of research, as opposed to broad-based biomedical research.

So I don't think you would see those companies funding research so much on cancer or on AIDS or other kinds of conditions that would get the biomedical breakthroughs. They might be looking at a new drug that could be developed within the pharmaceutical industry that they could sell, or they might be looking at a new piece of equipment that they could sell.

So I think it's a very different type of research, not on the basic research on the causes of disease and cures.

In terms of the nonprofit private sector, there are some major private foundations that do put money into research. But, again, they view their resources as so minute—even the largest foundation, like the Robert Wood Johnson Foundation, spends maybe $60 million a year. They look at NIH spending $6 or $7 billion a year and think that they can only tamper with certain things at the margin. So they might look at effective ways of delivering services to frail elderly in their homes. Or they might look at supports and demonstrations, get some innovative approaches to, say, prepaid managed care in the Medicaid program.

But they're very small scale relative to the size of NIH. So I think they don't begin to substitute or to compensate when the Federal Government cuts back that support.

Dr. KOLB. Two comments, if I may, Mr. Chairman, on that.

I think, first of all, concerning basic research, as Dr. Davis mentioned, it's hard for industry, I think, to be able to fund that because, in their overall scope of what their goals are within the industry, it's hard for them to see the long-term projection of the remuneration coming from that.

So I think the basic research has to stay within some form of our governmental structure or it's never going to get done.

The other thing, as you mentioned, about private industry, and just speaking with the Robert Wood Johnson people just last week, they say they are being continually bombarded now from requests of researchers doing basic research who have lost funding for some of their research assistants, lost funding for some of their projects,

resulting as you heard from the 12-percent cut, just to try and continue the projects that are existing.

And they say, that's not our focus. We have other areas that we need to look at. Surely, we will look at a certain specific area. But they say their requests have doubled and tripled in just the last year or two from basic research people saying, I can't complete my project on this essential research because my funding has been reduced significantly.

So I think it's multifocal.

By the same token, I think once basic research is completed, we're now seeing NIH, NICHD, anyway, beginning to work with industry to facilitate the production in the clinical areas of effective vaccines and genetic engineering.

So I think that marriage can exist once the basic research is done.

Dr. TILDON. I just want to say that I think of national health in the same scope as I think of national defense. I made that comment.

The nature of the programs that you want to get at are so large and comprehensive in scope, private industry always focuses on a specific and it can always provide very good complementary activity. If a vaccine is developed and there is a profit to be made, it can go to those next steps.

But, by and large, those ideas, those concepts that come out of basic research activity, are going to have to be government supported, because it is the Government's broader interest, as opposed to the parochial and immediate interest that one sees in the private sector.

That doesn't mean that they shouldn't complement. But even the foundations, again, the Hughes Foundation or the Robert Wood Johnson, they don't come anywhere near the kinds of funding that the National Institutes of Health and the Government can.

Senator SARBANES. What's your view—and this is probably my final question—your view of the research being done in other countries and our ability to draw upon it?

Dr. DAVIS. I think that's a very important point. The United States has looked, I think, too much internally and really hasn't looked at what we might learn by doing cross-national studies, for example, with other industrialized nations that are grappling with many of the same kinds of problems.

Even in the United Kingdom, they're finding tremendous health status differences by socioeconomic class that haven't been eliminated by a universal health insurance system, and they are very concerned about that.

In Scandinavia, Norway has undertaken a special effort to get their infant mortality rate down below Finland's, even though it's 6.5 in Norway and about 6.0 in Finland, where it's 11 in the United States.

So they are very concerned about that. Childhood injuries in Norway, for example, drownings are a major cause of death among young children, and also accidents, pedestrian accidents.

So I think that if we'd look at other countries and what they're doing to improve health, that we could adopt some of those strategies here.

The World Health Organization, European office, for example, is just launching an initiative called Healthy Cities. They will select 15 cities from throughout Europe and mount major prevention programs—Liverpool, dealing with problems of adolescence, for example.

And it seems to me that we stand a lot to gain by looking at that experience and doing more cross-national work. Again, this is the sort of thing that's not touched at all by the private foundations and rarely by the Federal Government, that tends to look more inward at the problems in the United States.

Dr. TILDON. Many of us, I guess, have spent opportunities abroad. I actually took a sabbatical in the Netherlands to learn some of the things that they were doing and brought back especially our work with sudden infant death syndrome.

The Netherlands, in terms of its commitment, is far ahead of us in terms of gross national product that it commits to science. And again, as I mentioned earlier, China, which is a developing country, has a major commitment now to the scientists, taking and making sure that they target the child health. But at the same time making sure that these scientists are protected, that they don't suffer the kinds of cutbacks that we're suffering from right here.

Dr. KOLB. My comments would be only just briefly on the concern with NICHD and its use of national data and worldwide data.

I think presently there's a consensus panel going on with relationship to AIDS and to infant apnea and use of home monitoring. And I think there's a lot of experience throughout the world, especially, as you've heard, in Scandinavian countries, in England and Australia. And this is being drawn together through the mechanism, really, of, in essence, of our efforts here in this country through NICHD to support this, to try and bring together worldwide people to look at this issue of sudden infant death.

And so I think the capabilities exist there. Maybe it would be done more if funding were there to allow it, because if there's good research elsewhere in the world that can be done in other parts of the world, as this vaccine trial is going to be starting in Sweden very shortly with the new tetanus vaccine, I think this is done. And it's probably restricted only by the restrictions of funds.

Senator SARBANES. Well, thank you all very much.

Do you want to add anything?

Dr. SABIN. May I just say a word about the question raised about research?

Senator SARBANES. Certainly.

Dr. SABIN. I've been involved with the National Institutes of Health for just about 40 years, officially, serving on study sections, councils, and various other activities.

About 20 years ago, I testified before a congressional committee, I think it was chaired by Senator Hubert Humphrey at the time, and the subject of it was how to accelerate progress in medical research.

There's a good deal of confusion about research, what is basic research that should be done here, there. And I think Senator Humphrey, later the Vice President, made a very good distinction which I found very helpful and clear thinking.

He categorized, particularly with regard to the responsibilities of the National Institutes of Health, he divided things not into so-called basic or applied research, which means nothing, really, but in categorical basic research and noncategorical basic research.

Noncategorical basic research looks for knowledge that applies and is needed for all sorts of activities in, first of all, understanding health and the various disciplines which gives us the tools with which to answer questions. And they're not related specifically to multiple sclerosis or cancer or heart disease; they're general problems like in neurobiology or biochemistry and so on.

Obviously, they need support. And perhaps the National Institutes of Health is not the only place to do it. The National Science Foundation, and so on. And the question is always how much? How much of each? And what is categorical basic research?

Categorical basic research looks for knowledge that is specifically needed, let us say, for some problem in child as anything else may be. Or if there's something that you need to get to arthritis or to multiple sclerosis and so on.

Now, originally, the National Institutes of Health were set up as categorical institutes, realizing a need of concentrating the search for new knowledge in very specific areas. That's why you have an Institute for Child Health and Human Development, Infectious Disease, Cancer, and so on.

And one of the problems is how good the NIH has functioned. The support for research, just in the 40 years that I've been associated, has skyrocketed tremendously. To make any sort of suggestion that medical research is not being supported in this country is, I think, not fair.

But there's always another question—is it enough? And also, the question that you have raised—is there something that could be done to improve what the National Institutes of Health are doing? And there's the attitude that's been expressed here, no, don't touch it. I mean, if you touch one single hair, you're going to kill it off.

Nothing is so perfect that it cannot be improved. And what I personally think, as I expressed it 20 years ago and published in "Science," is that the concentration on categorical basic research for which almost all of the institutes have been set up, is not being pursued in the optimum way.

The idea of saying, come, give me an idea, give me an idea, always asking somebody else, it's not enough. It's important to get ideas from others, but in categorical basic research, you have to stick to a problem. You have to have cooperative efforts. You have to have group thinking, which is not existent. It doesn't happen in the councils and the study sections.

And so, for example, research on multiple sclerosis has gone on for years. But it has been asking, in my judgment, and the judgment of others, the wrong questions.

Now it can be improved. Nothing is so good that it cannot be improved.

Now let's get down to some practical things.

We have a member of the advisory council of the National Institute for Child Health and Human Development who testified about some of the needs that are not being covered. And I happen to know that what the National Institute for Child Health and

Human Development is asking for and would like to have is not double its present budget of fiscal 1985, which, incidentially, is $312 million, but just another $68 million.

And I think that to do many of the things that Dr. Kolb has testified about, it is needed. I also deplore the idea that some cutback is devastating. Nothing is devastating. I mean, no budget is so abosolute that if you cut 10 percent of it it's devastating.

I think that people in research have responsbilities for adjusting budgets. I've looked at budgets for 40 years and I'll tell you, the idea that it just cannot be cut by 10 percent or so, that it would make it devastating, I would not agree with.

So what is one to conclude from the remarks that I just made?

Senator SARBANES. Let me just interrupt you there.

Dr. SABIN. Yes.

Senator SARBANES. Suppose you cut it 10 percent year to year to year. Is that devastating?

Dr. SABIN. That's not exactly what's happened.

Senator SARBANES. No, but if that were to happen.

Dr. SABIN. You have so many more people asking questions and it's not happening that way, 10 percent. Actually, it's been growing because you have to look not only at the budget of the individual investigator—$500,000 for one grant. I spent 20 years working on polio and I spent only $1 million.

Of course, monkeys cost $7 apiece then and things like that. I'm not trying to say that. But the assumption——

Dr. TILDON. $540 now.

Dr. SABIN. You know, you add up, as you called it, a billion here, a billion there, and pretty soon, you're talking about real money. And if you take all the thousands of investigators, $500,000 here and $500,000 there, and pretty soon you have some real money. And actually, there is a great deal of money being put in.

But I think that it has to be looked at not in generalizations that you can just use more money or that if we don't train more people—half of the people in training would bring in ideas that just weren't worth a damn because they didn't think by themselves. In their training, they were hands to somebody else.

The method of training—they did not use the period of training to bring out independent thinking. Many of them are just a couple of hands. And when they go out on their own and they get an assistant professorship and they apply for a grant, it's just awful.

Even some 20 years ago, when I was very active, 50 percent had to be just thrown out in the study sections because they didn't have the expertise.

So I wouldn't wring my hands too much. If Dr. Kolb and the others at the National Institute for Child Health and Human Development believe that the budget they submitted originally, and which was cut $68 million, that that $68 million is really essential, I would go along with the opinion of those who are competent to judge there.

But I wouldn't go at it in a way that is, I think, unfair. And I do think that greater attention to the categorical research responsibilities of the Institutes is needed. I mentioned multiple sclerosis research going on for 20 years and people wandering off to do the easy things, or in arthritis and many other fields.

So, first of all, I don't want to be misunderstood. I think, like the rest of the people here, that the National Institutes of Health is the best thing that has been developed. There's nothing as good anywhere else in any other country. They're also doing research. And of course research is interdependent.

If there weren't a National Institutes of Health, you'd have to create it. It was a Congressman, Fogarty, John Fogarty, who, working with Jim Shannon, one of the outstanding directors of the National Institutes of Health, who built it into an institution of which this country can be very proud. But that doesn't mean that it cannot be improved and shouldn't be improved.

And whether or not one spends the money that could be used on medical, biomedical research, involves a total national policy of allocations.

I remember once testifying before Fogarty, who was exhausted, and that's why he died so young—at 5 o'clock, he's heard 20 people. And I came to try to get the committee for a special $5 million allocation. In those days, it was a lot of money. And he said to me, Dr. Sabin, if you were in my place, would you approve this special allocation of $5 million?

And I said, but I'm not in your place. If I were in your place, as a Congressman, I would know all of the other national needs and I'd have the terrible responsibility of setting priorities.

My job is to make the best possible case for this $5 million. And that's the same way. The medical research community must make the best possible case, and then you have the responsibility of matching it up with all the other things, all the other priorities.

Excuse me for reminiscing too much. [Laughter.]

Senator SARBANES. Well, I think with that dilemma handed to us [laughter] we'll bring this hearing to a conclusion. Thank you all very much. It was very helpful testimony.

Dr. Sabin, thank you very much.

Dr. SABIN. Thank you.

[Whereupon, at 1:05 p.m., the subcommittee adjourned, subject to the call of the Chair.]

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